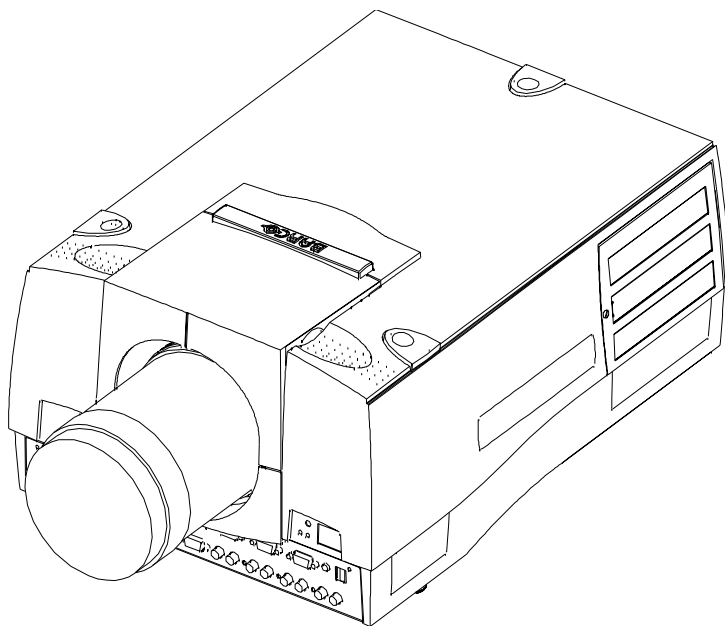




SIMULATION PRODUCTS



BARCO REALITY SIM 6 ULTRA

**R9040150
R9040151**

OWNER'S MANUAL

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This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area may cause harmful interference, in which case the user will be responsible for correcting any interference.

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1. PACKAGING AND DIMENSIONS

This chapter handles about the way the projector is packed and gives an overview of the dimensions.

- Lens Packaging
- Dimensions

1.1 Lens Packaging

Way of Packaging

Lenses are supplied as an individual item.

They are packed in a carton box.



Save the original shipping carton and packing material, they will be necessary if you ever have to transport the lens.



Never transport the projector with the lens mounted on it !
Always remove the lens before transporting the projector.

1.2 Dimensions

Dimensions overview

Dimensions are given in mm (1 inch = 25.4 mm)

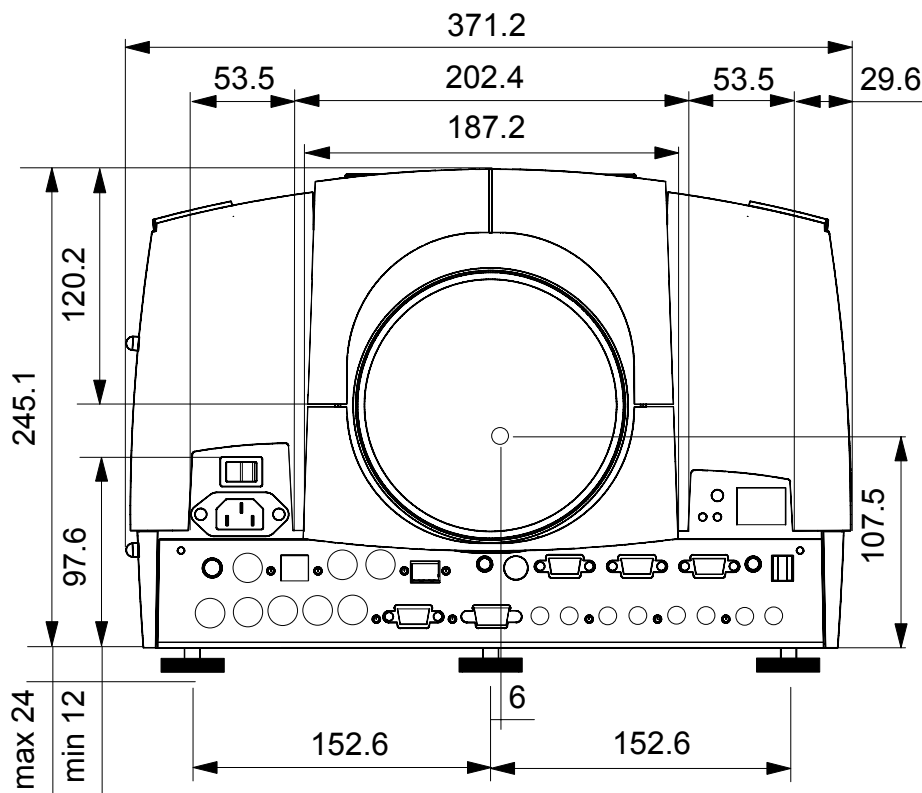


Image 1-1
Front view dimensions projector

1. Packaging and Dimensions

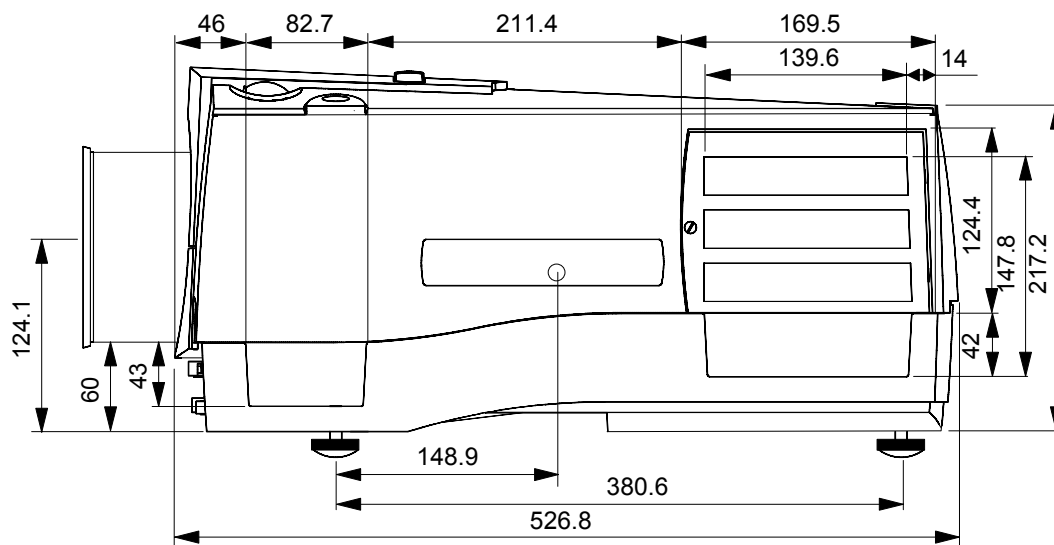


Image 1-2
Side view dimensions projector

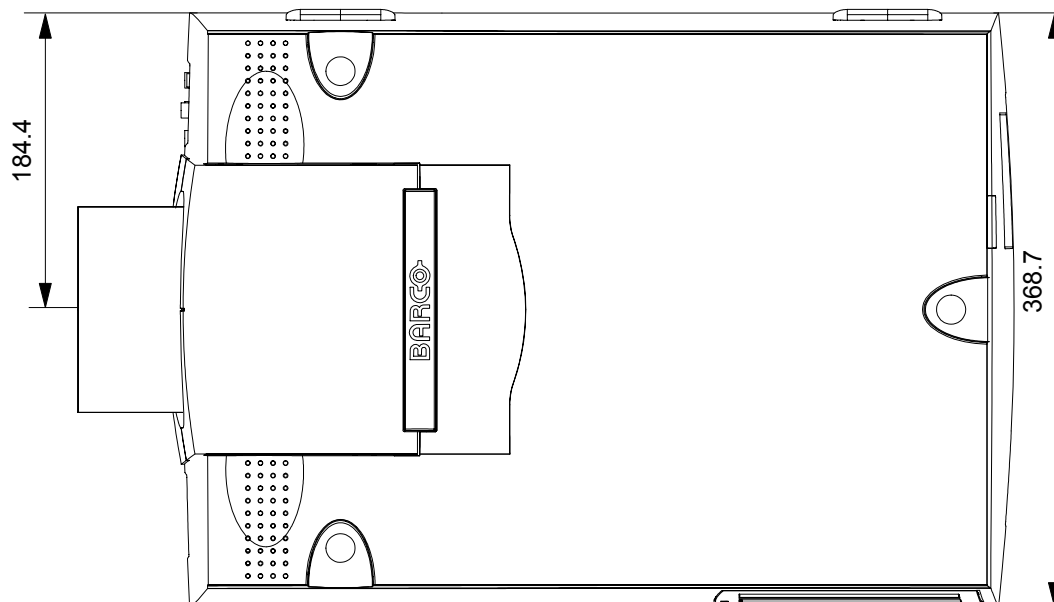


Image 1-3
Top view dimensions projector

2. INSTALLATION GUIDELINES

Overview

- Installation guidelines
- Configuration
- Lenses
- Batteries



Before installing the projector, read first the safety instructions supplied with the BARCOREALITY SIM6 ULTRA.

2.1 Installation guidelines

Ambient Temperature Conditions

Careful consideration of things such as image size, ambient light level, projector placement and type of screen to use are critical to the optimum use of the projection system.

Max. ambient temperature : 40 °C or 104 °F

Min. ambient temperature : 0 °C or 32 °F

The projector will not operate if ambient air temperature falls outside this range (0°C- 40°C or 32°F-104°F).

Storage temperature: -35°C to +65°C (-25.6°F to 149°F)

Humidity Conditions

Storage: 0 to 98 % RH Non-condensing

Operation: 0 to 95 % RH Non-condensing

Environment

Do not install the projection system in a site near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust or humidity. Be aware that room heat rises to the ceiling; check that temperature near the installation site is not excessive.



Harmful Environmental Contamination Precaution

Environment condition check

A projector must always be mounted in a manner which ensures the free flow of clean air into the projectors ventilation inlets. For installations in environments where the projector is subject to airborne contaminants such as that produced by smoke machines or similar (these deposit a thin layer of greasy residue upon the projectors internal optics and imaging electronic surfaces, degrading performance), then it is highly advisable and desirable to have this contamination removed prior to it reaching the projectors clean air supply. Devices or structures to extract or shield contaminated air well away from the projector are a prerequisite, if this is not a feasible solution then measures to relocate the projector to a clean air environment should be considered.

Only ever use the manufactures recommended cleaning kit which has been specifically designed for cleaning optical parts, never use industrial strength cleaners on a projectors optics as these will degrade optical coatings and damage sensitive optoelectronic components. Failure to take suitable precautions to protect the projector from the effects of persistent and prolonged air contaminants will culminate in extensive and irreversible ingrained optical damage. At this stage cleaning of the internal optical units will be non-effective and impracticable. Damage of this nature is under no circumstances covered under the manufactures warranty and may deem the warranty null and void. In such a case the client shall be held solely responsible for all costs incurred during any repair. It is the clients responsibility to ensure at all times that the projector is protected from the harmful effects of hostile airborne particles in the environment of the projector. The manufacture reserves the right to refuse repair if a projector has been subject to wantful neglect, abandon or improper use.

What about ambient light ?

The ambient light level of any room is made up of direct or indirect sunlight and the light fixtures in the room. The amount of ambient light will determine how bright the image will appear. So, avoid direct light on the screen. Windows that face the screen should be covered by opaque drapery while the set is being viewed. It is desirable to install the projection system in a room whose walls and floor are of non-reflecting material. The use of recessed ceiling lights and a method of dimming those lights to an acceptable level

is also important. Too much ambient light will 'wash out' of the projected image. This appears as less contrast between the darkest and lightest parts of the image. With bigger screens, the 'wash out' becomes more important. As a general rule, darken the room to the point where there is just sufficient light to read or write comfortably. Spot lighting is desirable for illuminating small areas so that interference with the screen is minimal.

Which screen type ?

There are two major categories of screens used for projection equipment. Those used for front projected images and those for rear projection applications.

Screens are rated by how much light they reflect (or transmit in the case of rear projection systems) given a determined amount of light projected toward them. The 'GAIN' of a screen is the term used. Front and rear screens are both rated in terms of gain. The gain of screens range from a white matte screen with a gain of 1 (x1) to a brushed aluminized screen with a gain of 10 (x10) or more. The choice between higher and lower gain screens is largely a matter of personal preference and another consideration called the Viewing angle. In considering the type of screen to choose, determine where the viewers will be located and go for the highest gain screen possible. A high gain screen will provide a brighter picture but reduce the viewing angle. For more information about screens, contact your local screen supplier. A high gain screen will provide a brighter picture but reduce the viewing angle.

What image size ? How big should the image be ?

The projector is designed for projecting an image size (video) from 1.00m (3.3ft) to 6.00m (19.7ft) with a aspect ratio of 5 to 4.

2.2 Configuration

Which configuration can be used ?

The projector can be installed to project images in four different configurations :

- Front/table
- Rear/table
- Front/ceiling
- Rear/ceiling

Positioning the projector

Drawings are given for a nominal lens position.

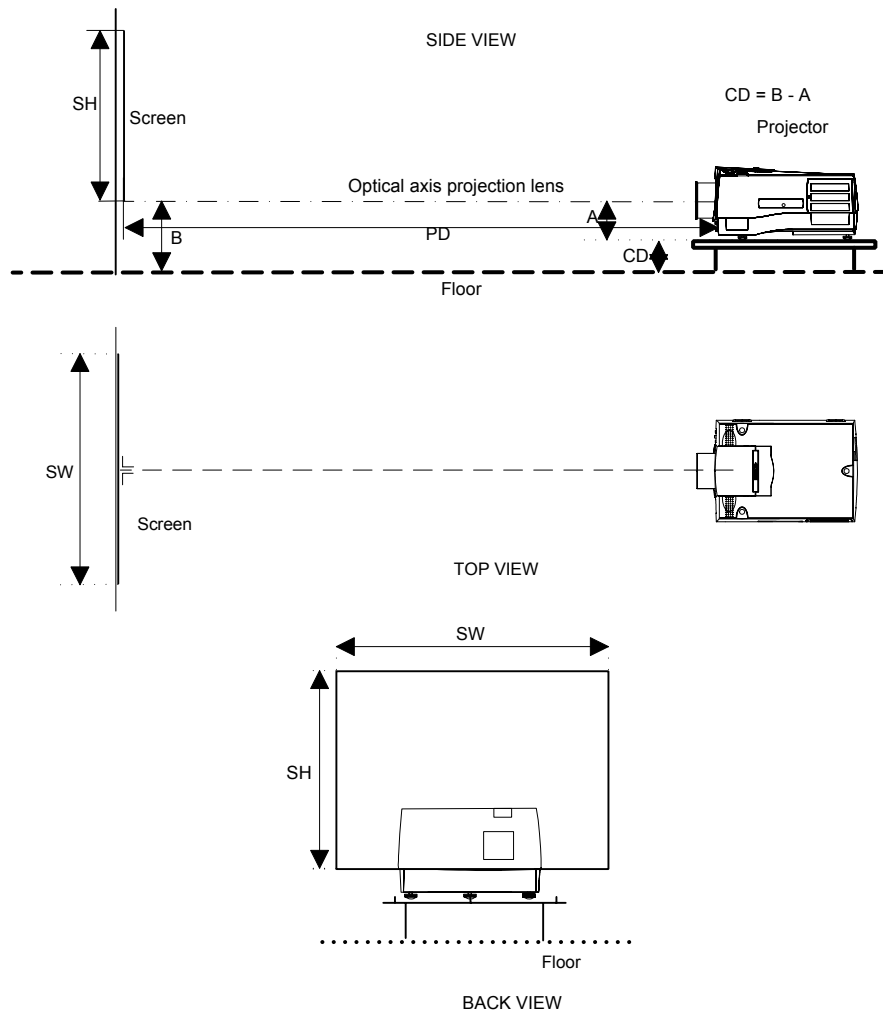


Image 2-1

- B Distance between ceiling and top of the screen or between floor and bottom of the screen.
 A Correction value, distance between bottom side of projector (without feet) and middle of the lens. Value to be subtracted from B to obtain the correct installation position. (A value is a constant value for all screen widths and type of lenses, $A = 124.1 \text{ mm}$ or 4.89 inch)
 CD Total distance between projector and ceiling or projector and floor.
 SW Screen width
 SH Screen height (image height)
 PD Projector distance, distance between screen and projector

2.3 Lenses

Overview

- Lenses
- Lens formulas
- Lens installation
- Cleaning the lens

2.3.1 Lenses

Available lenses

The following lenses are available, or will become available (contact a BARCO service center) as an option :

Lenses	Standard version	Scheimpflug version
QFD(1.27:1)	R9840400	R9840600
QFD(2.5:1)	R9840290	R9840470
QFD(1.4-2.1:1)	R9840380	R9840610
QFD(2.1-3.0:1)	R9840390	R9840590
QFD(3.4-4.5:1)	R9840060	R9840580
QFD(4.5-6.0:1)	R9840100	R9840460
QFD(7:1)	R9840410	—
QGD(0.8:1) / SW: (1-1.4)m	R9829800	R9840480
QGD(0.8:1) / SW: (1.7-2.4)m	R9840040	R9840490
QGD(0.86:1)	R9840491	R9840492

2.3.2 Lens formulas

Formulas

Lenses	Metric Formulas (meter)	Inch Formulas (inch)
QFD(1.27:1)	$PD = 1.29 \times SW - 0,0195 + 0,00276 / SW$	$PD = 1.29 \times SW - 0.768 + 4.278 / SW$
QFD(2.5:1)	$PD = 2.427 \times SW + 0,025 + 0,022 / SW$	$PD = 2.427 \times SW + 0.984 + 34.10 / SW$
QFD(1.4-2.1:1)	$PD_{min} = 1,44 \times SW + 0,0287 - 0,022 / SW$ $PD_{max} = 2,20 \times SW - 0,01 + 0,020 / SW$	$PD_{min} = 1.44 \times SW + 1.13 - 34.10 / SW$ $PD_{max} = 2.20 \times SW - 0.39 + 31.00 / SW$
QFD(2.1-3.0:1)	$PD_{min} = 2,13 \times SW - 0,10 + 0,056 / SW$ $PD_{max} = 2,90 \times SW + 0,10 - 0,0745 / SW$	$PD_{min} = 2.13 \times SW - 3.937 + 86.80 / SW$ $PD_{max} = 2.90 \times SW + 3.937 - 115.48 / SW$
QFD(3.4-4.5:1)	$PD_{min} = 3,374 \times SW - 0,115 + 0,0575 / SW$ $PD_{max} = 4,433 \times SW - 0,133 + 0,0556 / SW$	$PD_{min} = 3.374 \times SW - 4.53 + 89.13 / SW$ $PD_{max} = 4.433 \times SW - 5.24 + 86.18 / SW$
QFD(4.5-6.0:1)	$PD_{min} = 4,29 \times SW - 0,02 + 0,0009 / SW$ $PD_{max} = 5,86 \times SW + 0,15 + 0,0121 / SW$	$PD_{min} = 4.29 \times SW - 0.787 + 1.395 / SW$ $PD_{max} = 5.86 \times SW + 5.906 + 18.755 / SW$
QFD(7.0:1)	$PD = 6,882 \times SW - 0,045 + 0,048 / SW$	$PD = 6.882 \times SW - 1.772 + 74.4 / SW$
QGD(0.8:1) / SW: (1-1.4)m	$PD = 0,775 \times SW - 0,048 + 0,0074 / SW$	$PD = 0.775 \times SW - 1.89 + 11.47 / SW$
QGD(0.8:1) / SW: (1.7-2.4)m	$PD = 0,775 \times SW - 0,048 + 0,0072 / SW$	$PD = 0.775 \times SW - 1.89 + 11.47 / SW$
QGD(0.86:1)	$PD = 0,8376 \times SW + 0,00254 - 0,0150 / SW$	$PD = 0.8376 \times SW + 0.1 - 23.25 / SW$



Lens program to calculate the projector distance is available on the BARCO web site : http://www.barco.com/projection_systems/customer_services/lens_program.asp

2.3.3 Lens installation

How to install ?

Follow the next procedure :

1. Open the lens cover of the projector by pivoting it up and take it off. (image 2-2)
2. Pull the lens locks levers backwards to open the lens locks. (image 2-3)
3. Put the lens on the lens holder. (image 2-4)
4. Push the lens locks back in position and lock the levers.
5. Plug the wires of the motor unit into the connector (image 2-5)
6. Re-install the lens cover.



Image 2-2

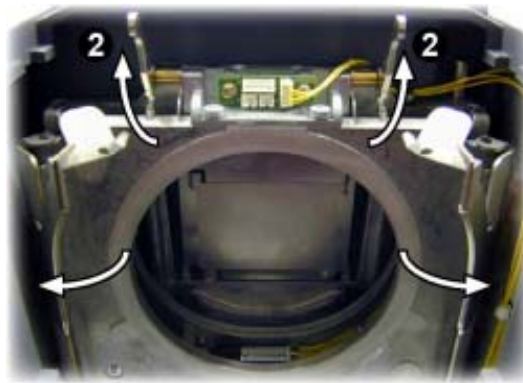


Image 2-3



Image 2-4

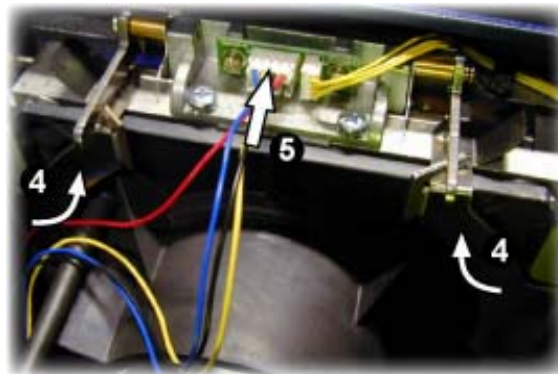


Image 2-5



The procedure for the mounting of a Scheimpflug lens is different.
Refer to the installation manual of the lens.



Never transport the projector with the lens mounted on it !
Always remove the lens before transporting the projector.

2. Installation Guidelines

2.3.4 Cleaning the lens



To minimize the possibility of damaging the optical coating or scratching exposed lens surface, we have developed recommendations for cleaning the lens. **FIRST**, we recommend you try to remove any material from the lens by blowing it off with clean, dry deionized air. **DO NOT** use any liquid to clean the lenses.

Necessary tools

Toraysee™ cloth (delivered together with the lens kit). Order number : R379058.

How to clean the lens ?

Proceed as follow :

1. Always wipe lenses with a CLEAN Toraysee™ cloth.
2. Always wipe lenses in a single direction.
Warning: *Do not wipe back and forwards across the lens surface as this tends to grind dirt into the coating.*
3. Do not leave cleaning cloth in either an open room or lab coat pocket, as doing so can contaminate the cloth.
4. If smears occur when cleaning lenses, replace the cloth. Smears are the first indication of a dirty cloth.



Do not use fabric softener when washing the cleaning cloth or softener sheets when drying the cloth.
Do not use liquid cleaners on the cloth as doing so will contaminate the cloth.



Other lenses can also be cleaned safely with this Toraysee™ cloth.

2.4 Batteries

Overview

- Battery installation

2.4.1 Battery installation

How to install the battery

Two batteries are packed together with the RCU. Before using your RCU, install first these batteries.

1. Remove the battery cover on the backside by pushing the handle a little towards the bottom of the RCU.
2. Lift up the top side of the cover at the same time.
3. Insert the batteries as indicated in the RCU.
4. Put the battery cover on its place.

3. CONNECTIONS

Overview

- Power connections
- Switching on
- Switching to standby
- Switching off
- Source Specifications
- Input source connections
- Communications connections

3.1 Power connections

AC Power cord connection

Use the supplied power cord to connect your projector to the wall outlet. Plug the female power connector into the male connector at the front of the projector. The power input is auto-ranging from 90 to 240 VAC.

Fuses

For continued protection against fire hazard :

- refer replacement to qualified service personnel.
- ask to replace with the same type of fuse (T10 AH/250V).

3.2 Switching on

How to switch on.

1. Press the power switch to switch on the projector.
 - When '0' is visible, the projector is switched off.
 - When '1' is visible, the projector is switched on

The projector starts in standby mode. The projector mode indication lamp is red.

Starting image projection.

1. Press **Stand by** key once on the local keypad or on the remote control.

The projector mode indication lamp will be green (image 3-1, image 3-2)

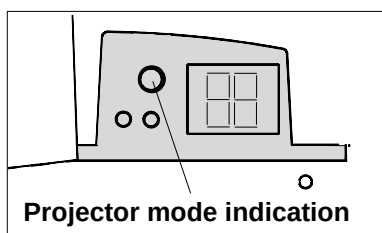


Image 3-1

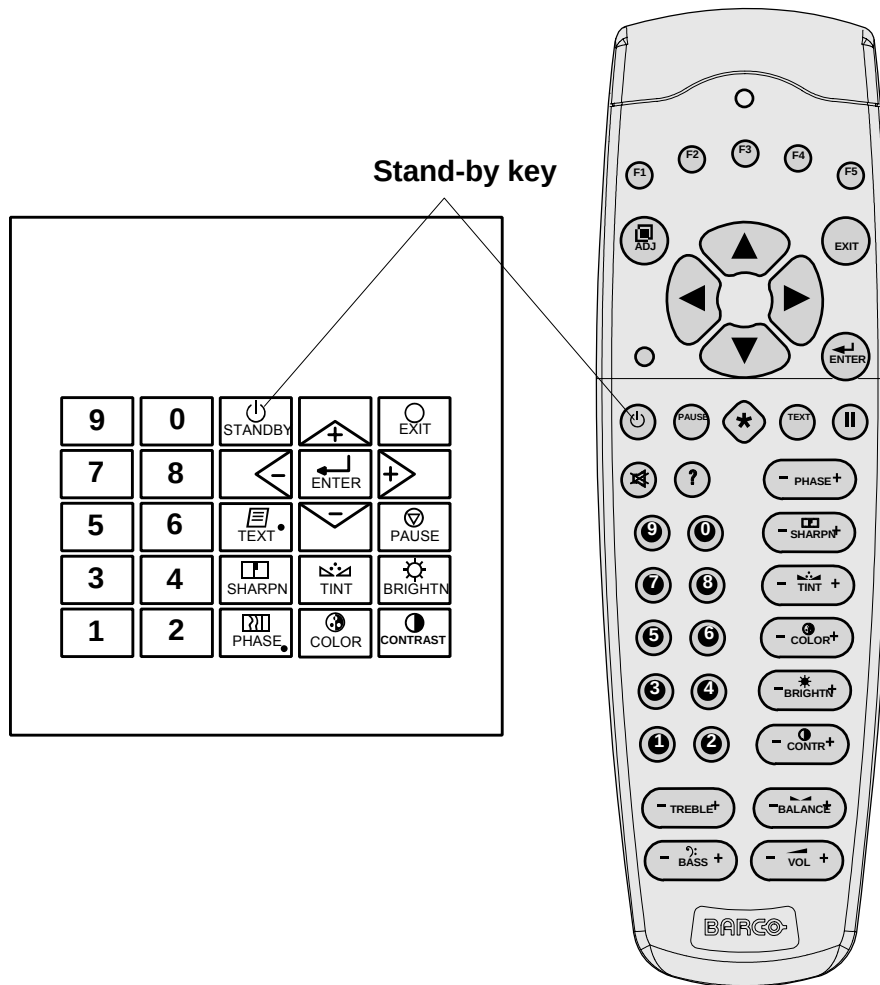


Image 3-2

Lamp run time indication while running

The lamp run time warning will only be displayed when the time is exceeding the limit. A warning message will be displayed 100 hours beforehand, with the exact run time "x" displayed on the screen. This message is displayed only at the start up of the projector. Press the **EXIT** button on the RCU or keypad to remove this warning message.



If the projector is running all the time the lamp warning will never be displayed.

```
Lamp run time is
x
hours.
Operating the lamp
longer than
x
hours
may damage
the projector.

<ENTER> to reset the
lamp runtime.
Please replace
the lamp.
```

Menu 3-1

The total lifetime of the lamp for a safe operation is "x" hours max, do not use it longer. Always replace with a same type of lamp. Call a BARCO authorized service technician for lamp replacement.

Press **ENTER** to reset the lamp runtime.

Max Lamp runtimes for the available projectors.

SIM Projector	x (Max lamp runtime, in hours)
BARCOREALITY SIM6 ULTRA	1000



Using a lamp for more than its recommended life time is dangerous as the lamp could explode.

3.3 Switching to standby

How to switch to standby?

1. Press **STANDBY** for 2 seconds until the messages *Saving data please wait* is displayed. (image 3-3)

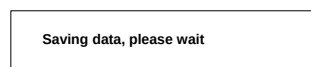


Image 3-3



When switching to standby the projector waits for 30 sec. before it can be restarted. During this period the LED display will show a jumping square with a dash. After one minute, two dashes will be displayed and the projector can restart.

3.4 Switching off

How to switch off the projector?

To switch off the projector, handle as follow :

1. Press **STANDBY** key for 2 seconds. When the message *Saving data, please wait* is displayed, do not press any longer on the **STANDBY** key otherwise the projector will restart.
When switching to standby the projector waits for 1 minute before it can restart again. During this period the LED display will show a jumping square with a dash. After one minute, two dashes will be displayed and the projector can restart.
Warning: *Let cool down the projector at least 10 min.*
2. Switch off the projector with the power switch.

3.5 Source Specifications

BARCOREALITY SIM6 ULTRA Source Specifications

Critical source specifications:

- Maximum Horizontal frequency of 115 kHz.
- Maximum pixel frequency of 205 MHz.

Recommended source specifications:

- The Active number of pixels has to be 1024 x 768 (XGA), 1280 x 1024 (SXGA) or 1600 x 1200 (UXGA).

3.6 Input source connections

3.6.1 Input facilities

Overview Input Facilities

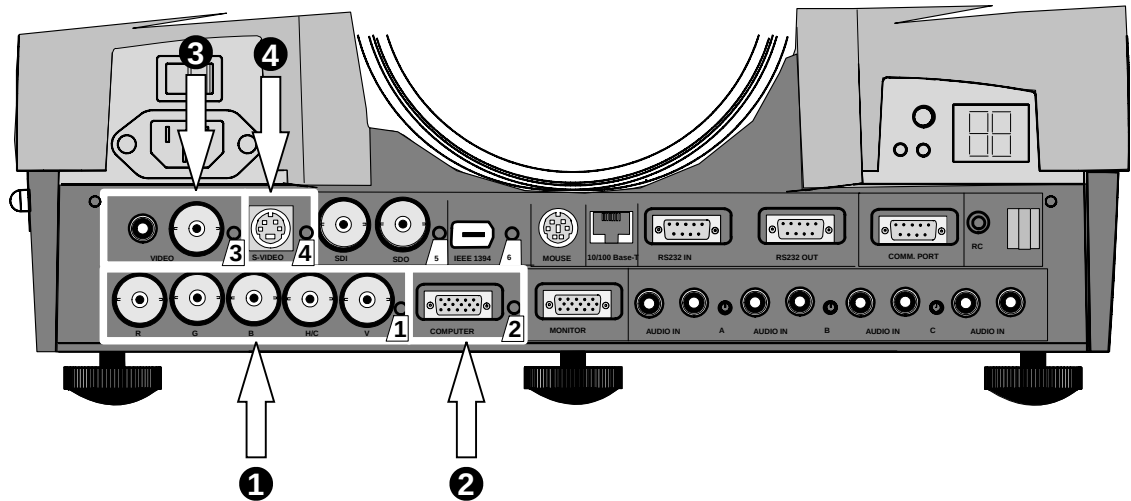


Image 3-4
Input Facilities

Input number	Type of input
1	5-Cable Input
2	Computer Input
3	Video Input ¹
4	Super Video Input ¹

3.6.2 Input Selection Mode

What can be done with the Input Selection Mode ?

This Input Selection Mode can be set [AUTOMATIC] or [MANUAL].

When [AUTOMATIC] is selected in the Input slots menu, by starting up the projector, it searches for an input source by scanning the inputs. If only one source is found, this source will be projected. If different sources are found, the priority is as follow.

1. 5 Cable input.
2. Computer.
3. Video (Optional).
4. Super Video (Optional).

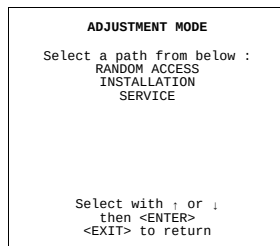


When a RCVDS is connected to the projector, the [AUTOMATIC] mode is disabled.

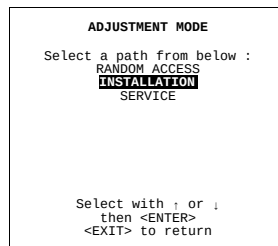
¹. Only available when the optional video decoder is installed

How to set the Input selection mode

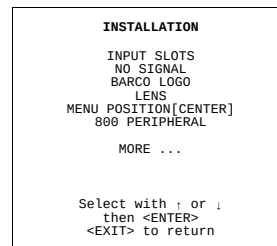
1. Press **ADJUST** or **ENTER** to start up the Adjustment Mode.
The *Adjustment Mode* menu will be displayed. (menu 3-2)
2. Push the cursor key ↑ or ↓ to highlight *Installation*. (menu 3-3)
3. Press **ENTER** to select.
The *Installation* menu will be displayed. (menu 3-4)
4. Push the cursor key ↑ or ↓ to highlight *Input Slots*. (menu 3-5)
5. Press **ENTER** to select.
The *Input Slots* menu will be displayed. (menu 3-6)
6. Push the cursor key ↑ or ↓ to highlight Slot Selector. (menu 3-7)
7. Press **ENTER** to toggle between [AUTOMATIC] or [MANUAL].
8. Press **EXIT** several times to leave the adjustment mode.



Menu 3-2



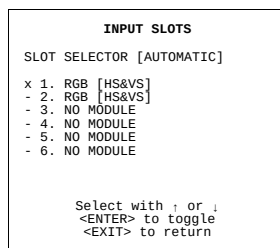
Menu 3-3



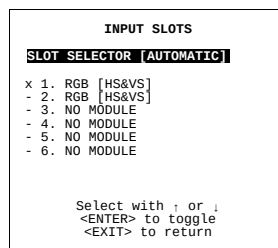
Menu 3-4



Menu 3-5



Menu 3-6



Menu 3-7

3.6.3 Inputs via RCVDS05

Overview

When using a RCVDS05, it is recommended to use a 5-Cable Output module in the RCVDS. The outputs of this module have to be connected to the 5-Cable Input (Input Slot 1) of the projector. To switch the projector in the 5-Cable mode see chapter 'Installation mode'.

3.6.4 Input 1

Which signals can be connected to Input 1?

Connector name / Input Signal	R	G	B	H	V
RGBHV	R	G	B	H	V
RGBS	R	G	B	S	-
RGsB	R	Gs	B	-	-
Composite Video ¹	-	Video	-	-	-
Super Video ¹	-	Y	-	-	C

How to connect to Input 1?

1. Connect the Output of the Image Generator to the 5-Cable BNC Input (Input 1) on the projector. (image 3-5)

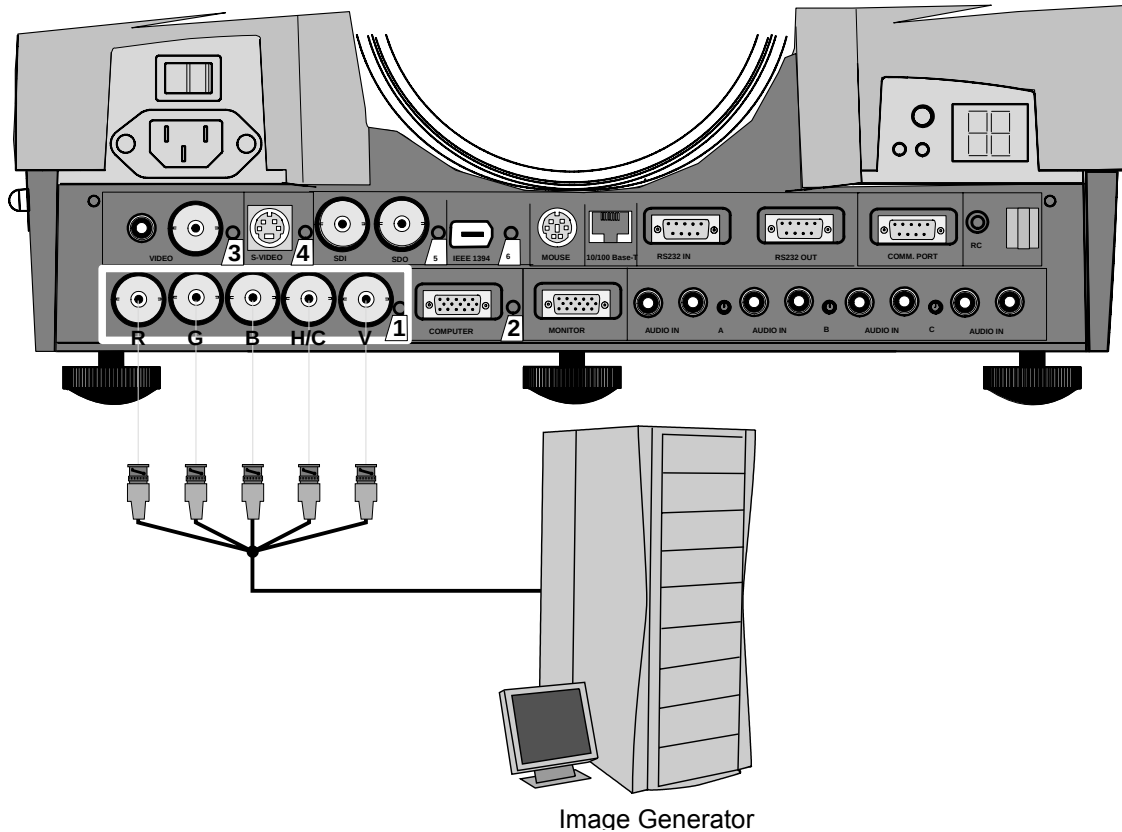


Image 3-5
Connecting to Input 1

How to select Input 1?

1. Press key **1** on the RCU or the local keypad.

Configuring the 5 cable input

This configuration has to be done on the *Input Slot* menu. To change the signal format:

1. Press the **ADJUST** or **ENTER** key to start up the Adjustment mode.

The *Adjustment Mode* menu will be displayed. (menu 3-8)

2. Push the cursor key **↑** or **↓** to highlight *Installation*. (menu 3-9)

3. Press **ENTER** to select.

The *Installation* will be displayed.

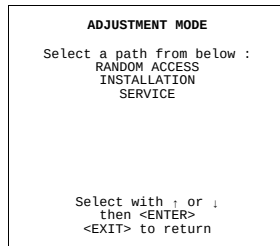
4. Push the cursor key **↑** or **↓** to to highlight *Input Slots*. (menu 3-10)

5. Press **ENTER** to select.

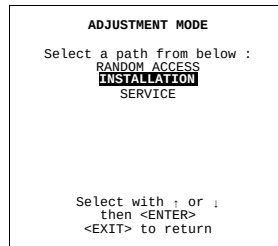
The projector will scan the inputs and will display the results in the *Input Slots* menu. (menu 3-11)

6. Push the cursor key **↑** or **↓** to select the first slot. (menu 3-12)

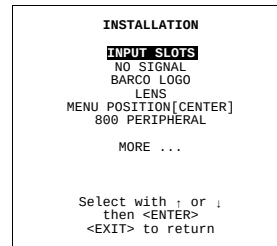
7. Press **ENTER** to toggle the signal priority.
8. Press **EXIT** several times to leave the adjustment mode.



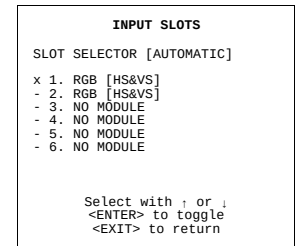
Menu 3-8



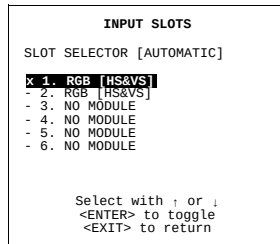
Menu 3-9



Menu 3-10



Menu 3-11



Menu 3-12

Possible indications on the input slot menu.

- RGB [HS&VS] = RGB analog signals, separate sync is horizontal and vertical sync
- RGB CS = RGB analog signals, separate sync is composite sync
- RGB CV = RGB analog signals, separate sync is composite video or tri-level sync
- RGB-SOG = RGB analog signals, sync on green is composite sync
- VIDEO¹
- S-VIDEO¹



When using an RCVDS 05 with a 5-Cable Output Module, connect these 5 cables to this 5-Cable Input Slot (Input Slot 1) of the projector. All sources of the RCVDS can now be accepted by the projector.

3.6.5 Input 2

How to connect a Computer to the Projector?

1. Connect the output of the graphical card of the computer to the Computer input of the projector (image 3-6)
Note: Only if the connection is < 60 cm. Otherwise insert an interface between the output of the computer and the input of the projector.

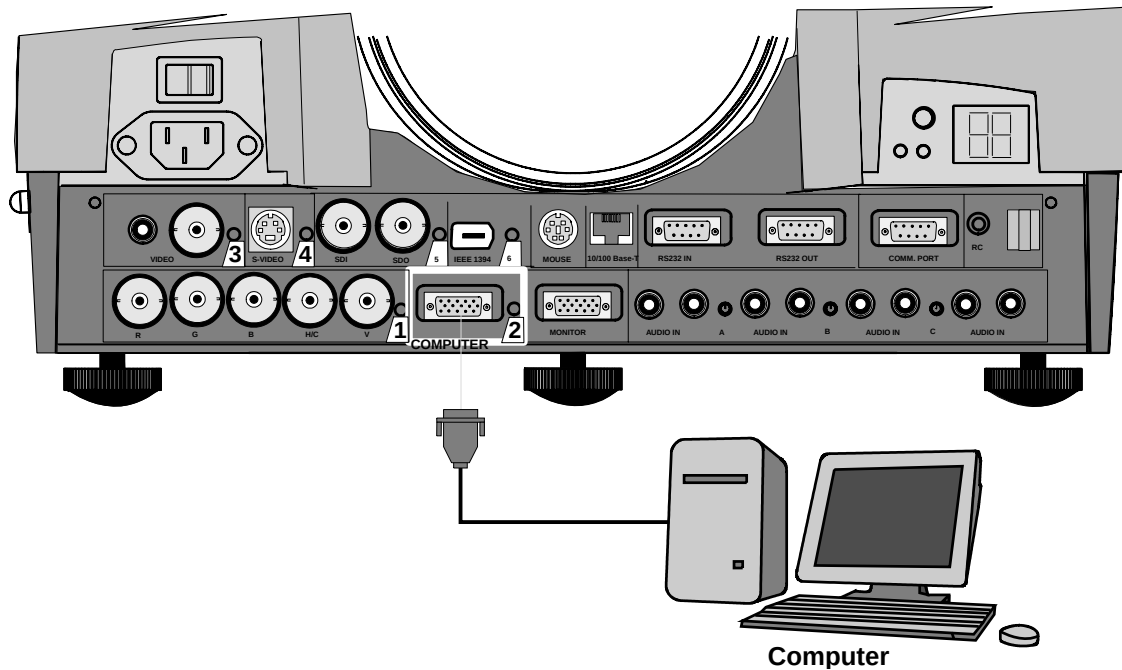


Image 3-6
Connecting to Input 2

Pin configuration of the D15 connector

1	RED
2	GREEN
3	BLUE
4	loop through to monitor
5	ground
6	ground
7	ground
8	ground
9	loop through to monitor
10	ground
11	loop through to monitor
12	loop through to monitor
13	horizontal/composite sync
14	vertical sync
15	loop through to monitor

How to select Input 2?

1. Press key 2 on the RCU or local keypad.

3.6.6 Input 3 (Optional)



This (Composite) Video Input is only available when the Optional Video Decoder is installed.



Video

Composite Video is a single video signal that contains luminance, color and synchronization information. NTSC, PAL and SECAM are examples of composite video systems.

What can be connected to the Video Input?

Composite video signals from a VCR, OFF air signal decoder, ...



Loop through is not available.

How to connect a Video Source to the projector?

1. Connect the Output of the Video Source to the Video Input (Input 3) on the projector (1x BNC or Cinch 1.0 Vpp $\pm$ 3dB). (image 3-7)

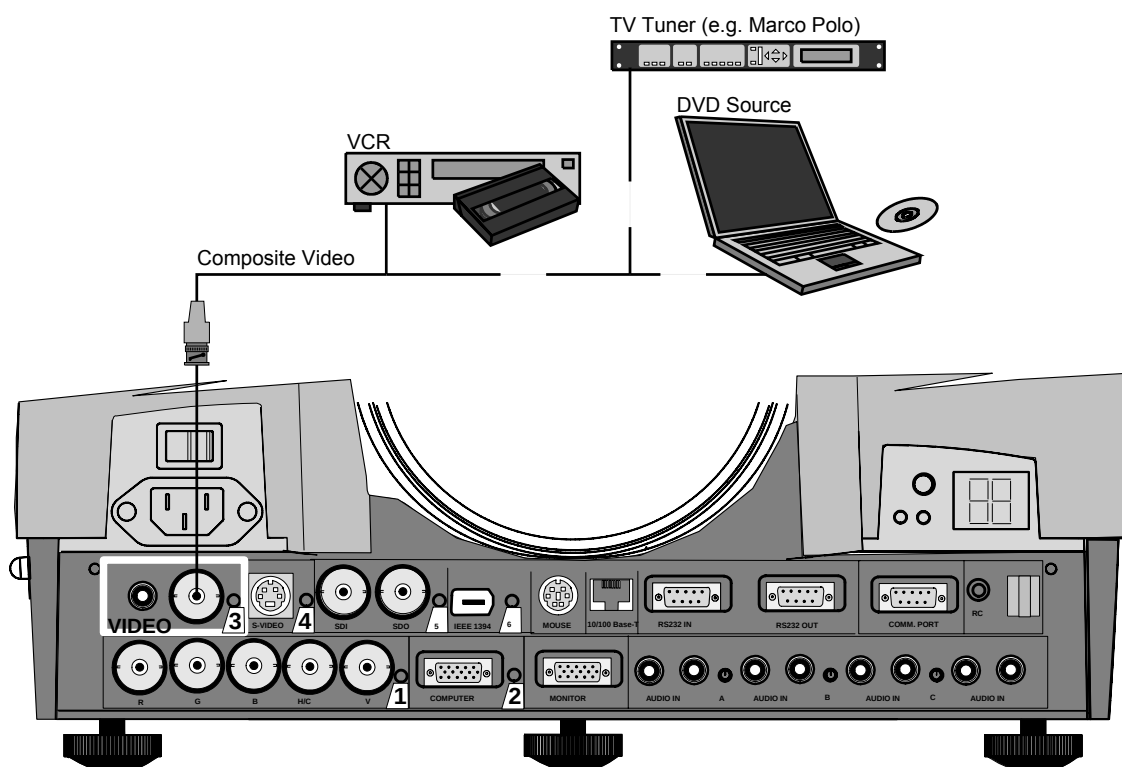


Image 3-7
Connecting to Input 3

How to select Input 3?

1. Press key 3 on the RCU or local keypad.

3.6.7 Input 4 (Optional)



This (Composite) Video Input is only available when the Optional Video Decoder is installed.

What can be connected?

Separate Y-Luma/C-Chroma signals for higher quality playback of Super VHS-signals.



Loop through is not available.

How to connect a Super Video Source to the projector?

1. Connect the Output of the Super Video Source to the Super Video Input (Input 4) on the projector. (image 3-8)

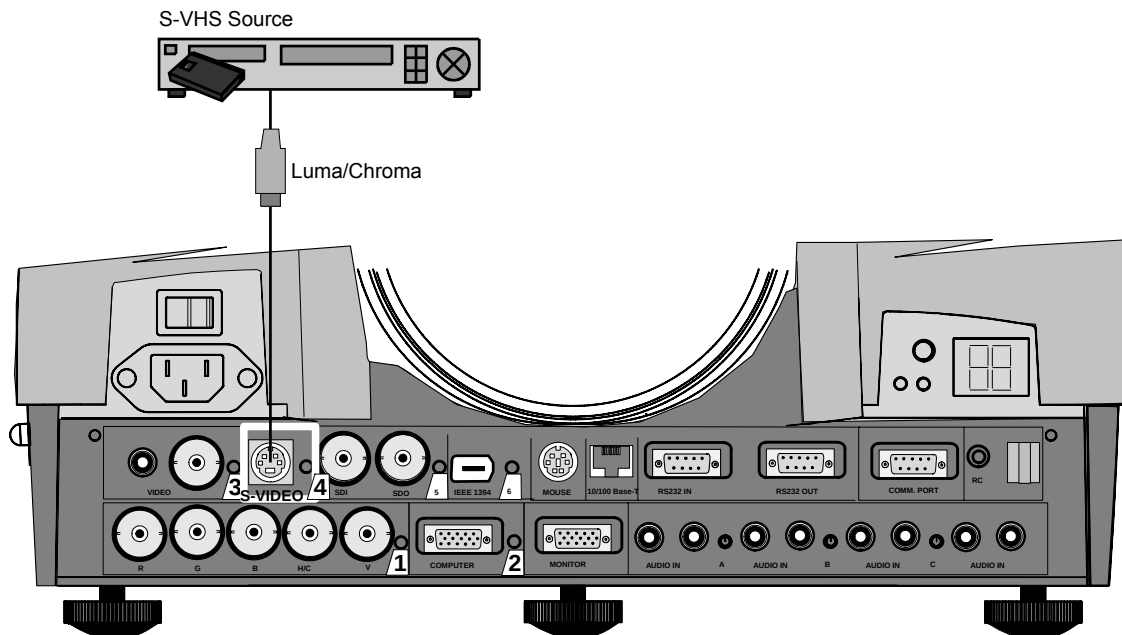


Image 3-8
Connecting to Input 4

Pin configuration of the Mini DIN Plug

- | | |
|---|-----------------------------------|
| 1 | Ground Luminance |
| 2 | Ground Chrominance |
| 3 | Luminance $1.0 V_{pp} \pm 3dB$ |
| 4 | Chrominance $282 mV_{pp} \pm 3dB$ |

How to select Input 4?

1. Press key 4 on the RCU or local keypad.

3.7 Communications connections

Overview

- RS232

3.7.1 RS232

Application

1. Remote control :
 - easy adjustment of projector via an IBM PC (or compatible) or MAC connection.
 - allow storage of multiple projector configurations and set ups.
 - wide range of control possibilities.
 - address range from 0 to 255.
2. data communications : sending data to the projector or copying the data from the projector to a hard memory device (hard disc, floppy, etc.).

How to connect ?

1. Connect the serial communication port of computer or Apple Macintosh to the RS232 in port of the projector.

4. GETTING STARTED

4.1 RCU & Local keypad

How controlling the projector ?

The projector can be controlled by the local keypad or by the remote control unit.

Location of the local keypad ?

The local keypad is located on the backside of the projector.

Remote control functions.

This remote control includes a battery powered infrared (IR) transmitter that allows the user to control the projector remotely. This remote control is used for source selection, control, adaptation and set up. It includes automatic storing of picture controls (Brightness, Sharpness...) and settings.

Other functions of the remote control are :

- switching between stand by and operational mode.
- switching to "pause" (blanked picture, full power for immediate restarting)
- direct access to all connected sources.

4.2 Terminology overview

Overview

The following table gives an overview of the different functionalities of the keys.

4. Getting started

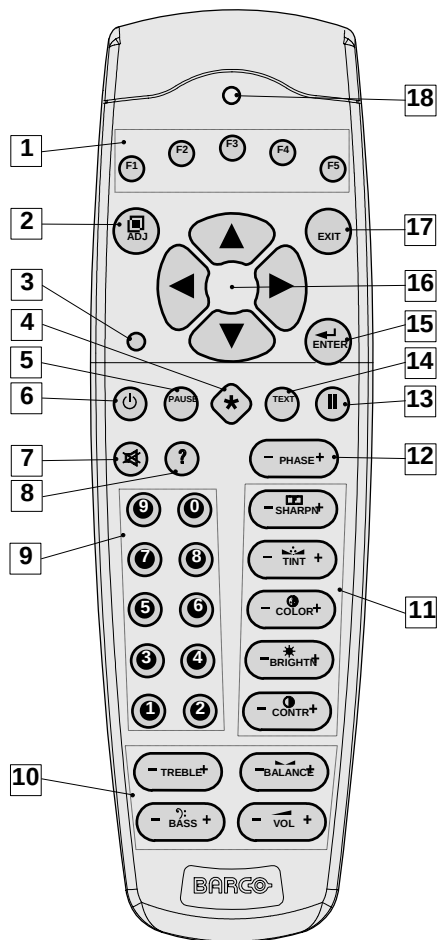


Image 4-1
RCU function indication

1	Function keys	not used.
2	ADJ.	exit all menu's.
3	Address key	(recessed key), to enter the address of the projector (between 0 and 9). Press the recessed address key with a pencil, followed by pressing one digit button between 0 and 9.
4	Selection key (*)	to direct access the zoom/focus/shift functions.
5	PAUSE	to stop projection for a short time, press 'PAUSE'. The image disappears but full power is retained for immediate restarting.
6	STBY	standby button, to start projector when the power switch is switched on and to switch off the projector without switching off the power switch. Attention : Switching to Standby. When the projector is running and you want to go to standby, press the standby key for 2 seconds until the message 'Saving data, please wait' is displayed. Do not press any longer on the standby key otherwise the projector will restart.
7	MUTE	not used.
8	?	not used.
9	Digit buttons	direct input selection.
10	Audio controls	not used.
11	Picture controls	press to adjust the projected image.
12	Phase	be sure the projector is warmed up for at least 15 min before adjusting the phase, press to adjust the phase of the projected image.
13	FREEZ	press to freeze the projected image.

14	TEXT	when adjusting one of the image, e.g. controls during a meeting, the displayed bar scale can be removed by pressing 'TEXT' key first. To re-display the bar scale on the screen, press 'TEXT' key again.
15	ENTER	to start up the adjustment mode or to confirm an adjustment or selection in the adjustment mode.
16	Cursor keys	to make menu selections when in the adjustment mode or to zoom/focus when the direct access is active. Comparison between the cursor keys and the use of the '+' and '-' keys on the local keypad : RCU = local keypad cursor key up = '+' key up cursor key down = '-' key down cursor key right = '+' key right cursor key left = '-' key left
17	EXIT	to leave the adjustment mode or to scroll upwards when in the adjustment mode.
18	RC operation indication	lights up when a button on the remote control is pressed. (This is a visual indicator to check the operation of the remote control)

Table 4-1

4.3 Operating the projector

4.3.1 Switching on

How to switch on.

1. Press the power switch to switch on the projector.
 - When '0' is visible, the projector is switched off.
 - When '1' is visible, the projector is switched on

The projector starts in standby mode. The projector indication lamp is red.

Starting image projection.

1. Press **Stand by** key once on the local keypad or on the remote control.

The projector mode indication lamp will be green (image 4-2, image 4-3)

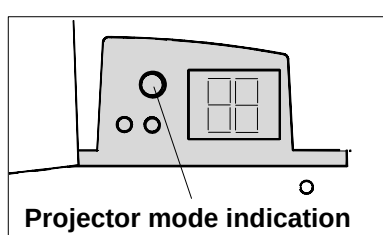


Image 4-2

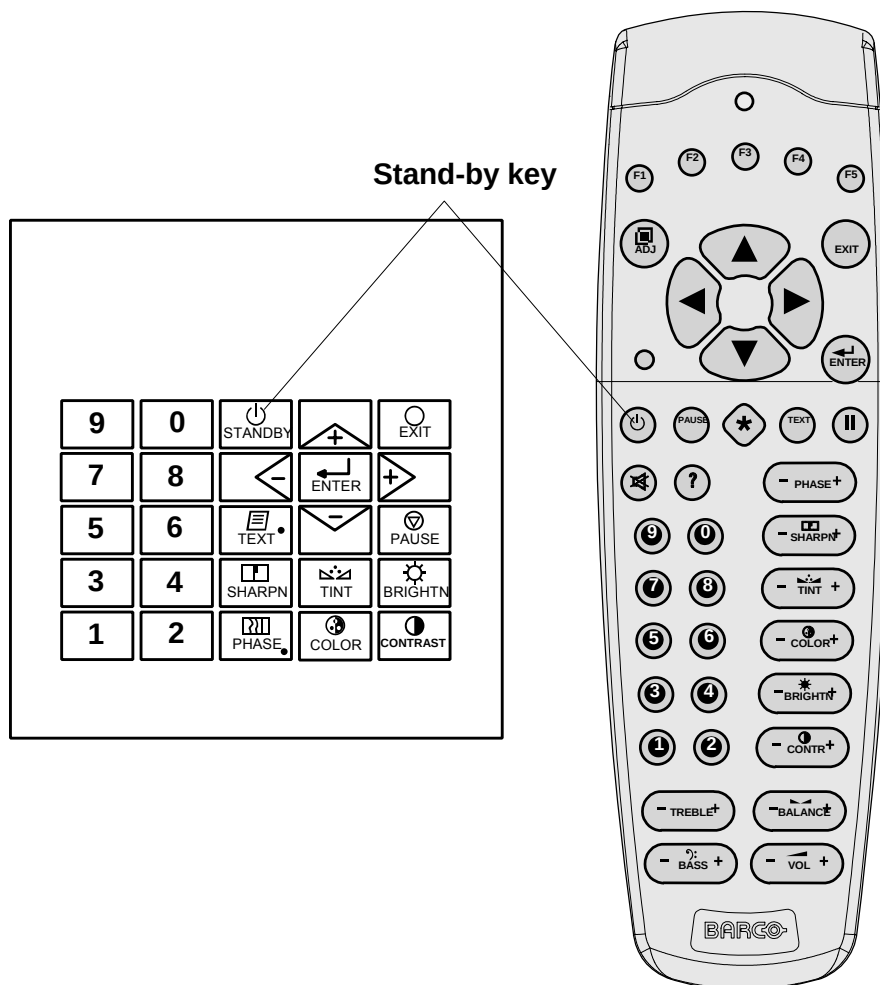


Image 4-3

4.4 Quick setup adjustments

Overview

- Quick lens Adjustment
- Quick on Screen Color Change.

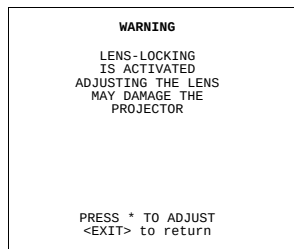
4.4.1 Quick lens Adjustment

What can be done ?

For a quick lens adjustment press the * key on the RCU to display immediately the lens menu.



If the “Rugged” option is installed the * key will display a WARNING message.



Menu 4-1

Quick zoom/focus adjustment

1. Press the Selection key *****.
The zoom/focus menu will be displayed.
2. Push the cursor key **↑** or **↓** to zoom and **←** or **→** to focus the image.
3. When finished, press **EXIT** key to return or **ENTER** to continue to the shift adjustment.

Quick shift adjustment

1. Press the Selection key *****.
The zoom/focus menu will be displayed.
2. Press **ENTER**.
The shift menu will be displayed.
Or,
Push the cursor key **↑** or **↓** to shift the image up or down and **←** or **→** to shift the image left or right.
3. When finished, press **EXIT** key to return or **ENTER** to continue to zoom/focus.

4.4.2 Quick on Screen Color Change.

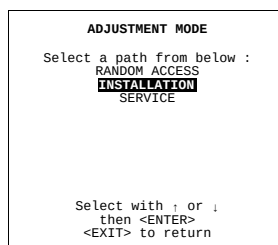
What can be done ?

For quick change of the on-screen color of the highlighted items.

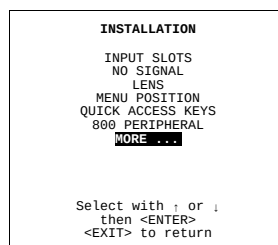
The highlighted items on the menus can be displayed in red, green or yellow.

How to change ?

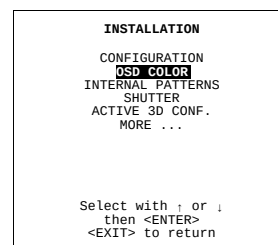
1. Press **ENTER** to start up the adjustment mode.
2. Push the cursor key **↑** or **↓** to highlight *Installation*. (menu 4-2)
3. Press **ENTER** to select.
4. Push the cursor key **↑** or **↓** to highlight *More...* (menu 4-3)
5. Press **ENTER** to select. (menu 4-4)
6. Push the cursor key **↑** or **↓** to highlight *OSD COLOR*
The OSD color menu will be displayed. (menu 4-5)
7. Push the cursor key **↑** or **↓** to highlight the desired color.
8. Press **ENTER** to activate.



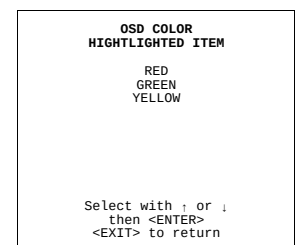
Menu 4-2



Menu 4-3



Menu 4-4



Menu 4-5

4.5 Using the RCU

Pointing to the reflective screen

1. Point the front of the RCU to the reflective screen surface. (image 4-4)

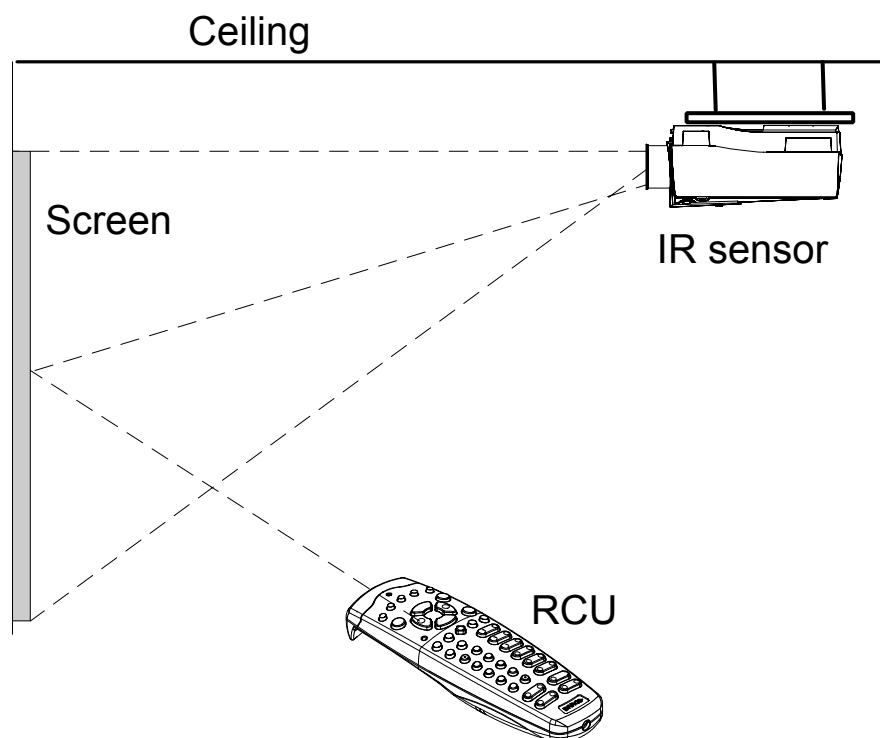


Image 4-4
Pointing the RCU via the screen to the IR sensor

Hardwired Remote Input

1. Plug one end of the remote cable in the connector on the bottom of the RCU.
2. Plug the other end in the connector in the front panel of the projector labelled **RC**. (image 4-5)

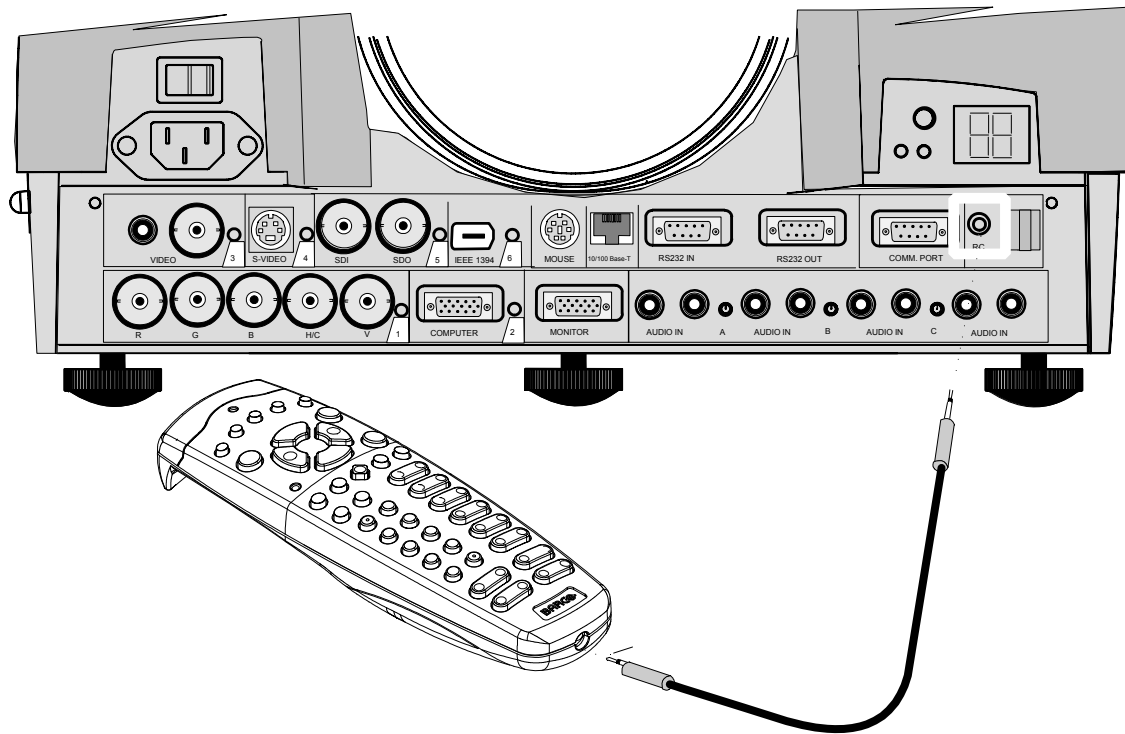


Image 4-5
RCU Hardwired to Remote Input

Directly to one of the IR sensors of the projector.

When using the wireless remote control, make sure you are within the effective operating distance (30m, 100ft in a straight line). The remote control unit will not function properly if strong light strikes the sensor window or if there are obstacles between the remote control unit and the projector IR sensor.

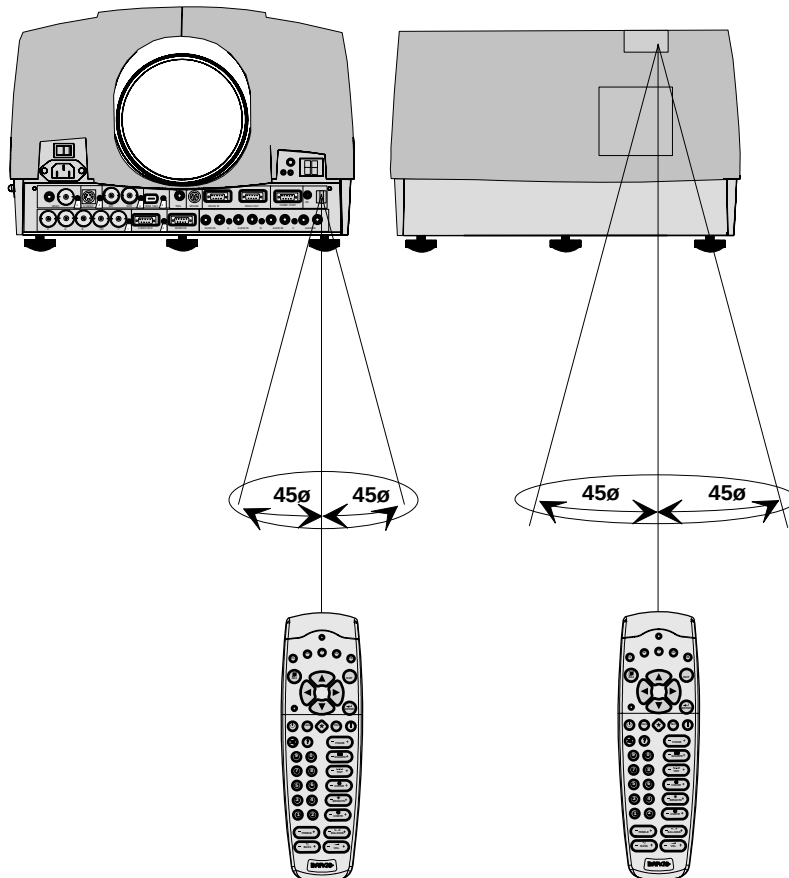


Image 4-6
RCU directly to the IR sensor

4.6 Projector Address

4.6.1 Controlling the projector



Projector address

Address installed in the projector to be individually controlled.



Common address

Default address. Projector will always execute the command coming from a RCU programmed with that common address.

Why a projector address ?

As more than one projector can be installed in a room, the separate projector should be separately addressable with an RCU or computer. There for each projector has its own address.

Set up an individual Projector Address.

The set up of a projector address can be done via the software. See 'Change projector address' in chapter 'Service mode'.

Projector controlling.

Every projector requires an individual address between 0 and 255 which can be set in the Service mode.

When the address is set, the projector can be controlled now:

- RCU for addresses between 0 and 9.
- computer, e.g. IBM PC (or compatible), Apple MAC, etc. for addresses between 0 and 255.



A projector will respond to a RCU set to the common address ('0' or '1') regardless of what address is set in the projector itself.



The RCU is default programmed with address 0 or 1, 'common address'. With that 'common address' programmed into the RCU, every projector, without exception will listen to the commands given by this RCU. If it is necessary to control a specific projector, than enter the projector address into the RCU (only when that address is between 0 and 9). The projector with the corresponding address will listen to that specific RCU.

Common Address

Every projector has a common address '0' or '1'. The choice between '0' and '1' can be selected in the Service mode.

4.6.2 Displaying and Programming addresses

Displaying the Projector Address on the Screen.

1. Press **Address** key (recessed key on the RCU) with a pencil.

The projector's address will be displayed in a 'Text box'



To continue using the RCU with that specific address, it is necessary to enter the same address with the digit buttons (address between 0 and 9) within 5 seconds after pushing the address key. For example : if the Address key displays projector address 003, then press "3" digit button on the RCU to set the RCU's address to match the projector's address. Do not press 003 digits. This will address the remote control to '0' and control all projectors in the room. If the address is not entered within 5 seconds, the RCU returns to its default address (zero address) and control all projectors in the room.

How to Program an Address into the RCU?

1. Press the **Address** key (recessed key on the RCU) with a pencil.
2. Enter the address with the digit buttons within 5 seconds after pushing the address key.

Note: That address can be any digit between 0 and 9.

4.7 Controlling the projector

Input Selection

Key in the corresponding slot number with the digit keys on the RCU. The selected source will be displayed.

Picture Controls

When an image control is pressed, a text box with a bar scale, icon and function name of the control, e.g. 'brightness...' appears on the screen (only if text is ON). See example screen. The length of the bar scale and the value of the numeric indication indicate the current memorized setting for this source. The bar scale changes as the control stick on the RCU is pressed or the + or - buttons on the local keypad.

Brightness	A correct 'brightness' setting is important for good image reproduction. Use the + button for a higher brightness. Use the - button for a lower brightness.
Contrast	A correct 'contrast' setting is important for good image reproduction. Adjust the contrast to the level you prefer, according to room lighting conditions. Use the + button for a higher contrast. Use the - button for lower contrast.
Color	Color saturation is only active for Video and S-Video. Adjust the color intensity of the picture. Use the + button for richer colors. Use the - button for lighter colors.

4. Getting started

Tint	Tint is only active for Video and S-Video when using the NTSC 4.43 or NTSC 3.58 system. Use the + button Use the - button.
Sharpness	Use the + button for a sharper picture. Use the - button for a softer picture.
Phase	Use the + or - button to adjust the phase.
Freez	Press Freez to freeze the displayed image.

The Pause Key

When the Pause key is pressed, the image projection is stopped, a blue or black screen will be displayed and the projector remains with full power for immediate restart. The sound is not interrupted. The display on front of the projector will show a "P".

To restart the image :

- Press **Pause** key.
- Press **EXIT** key
- Select a source number.

The Selection key

See Quick lens Adjustment, page 26

5. RANDOM ACCESS

Overview

- Random Access Overview
- Random Access Start up
- File Service
- Picture Tuning
- Geometry
- Geometry

5.1 Random Access Overview

Random Access Overview

- File Service
 - Load
 - Edit
 - Rename
 - Copy
 - Delete
 - Options
 - File Sort [Name/Index]
 - File Load [Automatic/Manual]
 - Serial File Load [On/Off]
 - Field Stretch [Off]²
- Picture Tuning
 - Motion Compensation (Optional)
 - LCD Speed
 - LCD Speed R/G
 - LCD Speed B/G
 - Color Temperature
 - Projector White
 - Computer 9300K
 - Video 6500K
 - Film 5400K
 - Broadcast 3200K
 - Custom Balance
 - Gamma
 - Input Balance
 - White Balance
 - Black Balance
 - Default
 - Windowing
 - Blanking
 - Top
 - Bottom
 - Left
 - Right
 - Reset
 - Shift
 - Size
 - Geo Soft Edge [On/Off]
 - Aspect Ratio
 - [5:4]
 - [4:3]
 - [16:9]

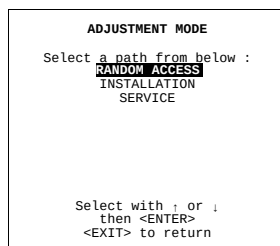
2. This function will be implemented in the next software release

- Geometry (When the WARP 6™ option is activated)
 - Load
 - Edit
 - o Coarse
 - o Linearity
 - o Fine
 - o Shift
 - o Transport Delay
 - o Mode [Automatic/Manual]
 - o Transport Delay Setting
 - o Blanking/Soft Edge (Optional)
 - o Active [On/Off]
 - o Blanking
 - o Soft Edge Width (Optional)
 - o Reset
 - o Coarse
 - o Linearity
 - o Fine
 - o Blanking/Soft Edge (Optional)
 - o Soft Edge (Optional)
 - o All
 - o All
 - Rename
 - Copy
 - Delete
- Geometry (When the WARP 6™ option is not activated)
 - Size
 - Shift
 - Keystone
 - Blanking/Soft Edge

5.2 Random Access Start up

How to start up ?

1. Push the cursor key ↑ or ↓ to highlight *Random Access*. (menu 5-1)
2. Press **ENTER**.



Menu 5-1

5.3 File Service

5.3.1 File annotation

How a file is built up

The file notation on a menu is built up in different parts. Let us have a look to these parts.

Take the following notation : xxxxxxxx.eee n ppppXppppi

xxxxxxx	base name, 8 characters
eee	file extension first character C : custom made file first character S : standard file The second and third character is used for a following number (= file index). The file index for custom files : 01 to 20.
n	source number
ppppXpppp	active pixel rating
i	i or blank i = interlaced file blank = not interlaced

Table 5-1

5.3.2 Possible file manipulations

Connecting a new source.

Before using a new source, a correct file has to be installed. The projector's memory contains a list of files corresponding to the most used sources. When the new source corresponds with one of these files, the file can be loaded and saved for future use. When there is a little difference, the file can also be loaded and then edited until the source specs are reached.



File loading can be done automatically. Files with a ~ in front of the file name are temporary files. These files will be deleted when switching to another source.

Possible file Manipulations

The following file manipulations are possible :

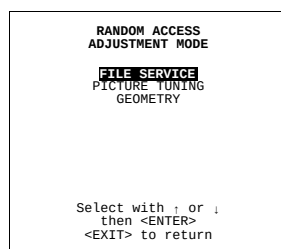
- Load : installation of a file for a new source.
- Edit : editing a loaded file to the source specs.
- Rename : renaming a file.
- Copy : copying a file.
- Delete : deleting a file
- Options : way of sorting the files.

5.3.3 File Service Start up

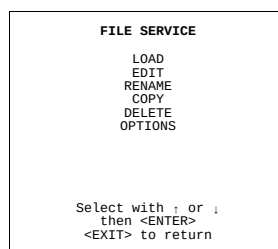
How to start up ?

1. Push the cursor key ↑ or ↓ to highlight *File Service*. (menu 5-2)
2. Press **ENTER** to select.

The *File Service* menu will be displayed. (menu 5-3)



Menu 5-2



Menu 5-3

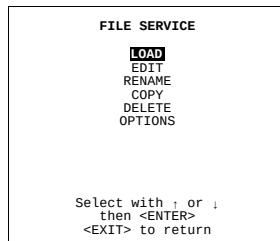
5.3.4 Load File

Start up Load file

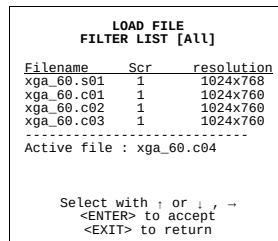
To start up the load file, handle as follow :

1. Push the cursor key ↑ or ↓ to highlight *Load*. (menu 5-4)
2. Press **ENTER** to select.

The *Load* menu displays the corresponding files depending on the installed filter. (menu 5-5)



Menu 5-4



Menu 5-5

Changing the filter setting

1. Push the cursor key ↑ or ↓ to highlight *filter list*.
2. Press **ENTER** to toggle the annotation between brackets.

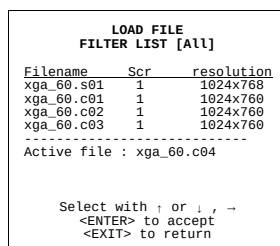
[ALL]	all files that can be loaded will be displayed
[FIT]	only the best fitting files will be displayed (with a distinction of ± 2 lines and line duration of ± 300 ns, if nothing is found within this small area, the projector continues searching until it finds something).

How to load a file ?

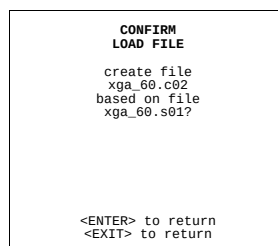
1. Push the cursor key ↑ or ↓ to select the best fitting file. (menu 5-6)
2. Press **ENTER** to select.

A confirm Load file menu will be displayed with the newly created file and the one on which the new file is based on. (menu 5-7)

3. Press **ENTER** to confirm the new creation or **EXIT** to return to the load file menu.



Menu 5-6



Menu 5-7



During a load file, the actual file is displayed next to the indication *Active file*.



When scrolling through the files, the image will be adapted according to the settings of the selected file (on line adaptation) .

The image is not perfect ?

If the displayed image is not correct after selecting the best fitting file, go to the Edit menu, select the active file and change the File settings.

5.3.5 Edit file

The Edit file menu makes it possible to change the settings of the file according to the real settings of the connected source. Consult the source specification before entering the data.

- Start up
- Changing the settings
- Correct value
- Rename
- Copy
- Delete
- File Options

5.3.5.1 Start up

How to start up the Edit menu ?

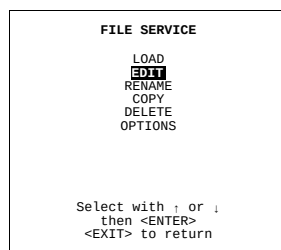
To start up the EDIT menu :

1. Push the cursor key ↑ or ↓ to highlight *Edit*. (menu 5-8)
2. Press **ENTER** to select.

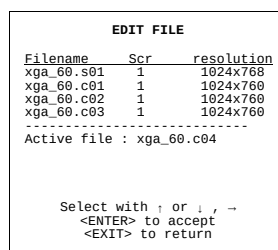
The Edit file adaptation menu will be displayed. (menu 5-9)

3. Select the file which must be edited (mostly the active file).
4. Press **ENTER**

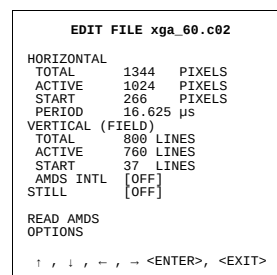
The file name will be displayed in the upper right corner. (menu 5-10)



Menu 5-8



Menu 5-9



Menu 5-10

5.3.5.2 Changing the settings

Different methods

The 3 different methods to change a setting will be describe hereafter. These methods are:

- with the numeric keys on the remote control.
- with the arrow keys selecting the changing digit.
- with the arrow keys counting up or down.

How to change a setting with the numeric keys?

1. Push the cursor key ↑ or ↓ to highlight an item.

The color of the selected item will change.

2. Press **ENTER** to activate the digits.
3. Enter directly with the numeric keys on the RCU or local keypad the new value.

How to change a setting with the cursor keys?

1. Push the cursor key ↑ or ↓ to highlight an item.

The color of the selected item will change.

2. Press **ENTER** to activate the digits.
3. Push the cursor key ← or → to select the changing digit.
4. Push the cursor key ↑ or ↓ to scroll to the desired digit.
5. When finished, press **ENTER** to confirm.

How to change a setting with the cursor keys and counting up or down?

1. Push the cursor key ↑ or ↓ to highlight an item.
The color of the selected item will change.
2. Press **ENTER** to activate.
3. Counting up or down by pushing the cursor key ← or →.

5.3.5.3 Correct value

What is already available during start up?

During the installation of a file with LOAD, the horizontal period, the total number of vertical lines and the interlaced mode are automatically measured and filled in, in the menu table. These values will be available when starting up the EDIT procedure of an active file.



Do not adjust these settings on an active file, they are used to identify the input source file.

How to find the correct values for the item in the Edit file menu?

Horizontal Total Pixels	If the value for "Horizontal Total Pixels" is wrong, sampling mistakes (small vertical bars with noisy and unsharp data in the projected image) will be seen in the image. Select "Total" and adjust the pixel quantity. Adjust for zero bars. hint: if the number of bars increase, adjust in the other direction.
Active Pixels	The "Active Pixels" : determine the width of the window on the screen. This value is normally given in the source specifications. If not, adjust until full image is displayed (no missing pixels).
Horizontal Start	number of pixels between the beginning of the input signal and the start of the video information in the signal.
Horizontal Period	already filled in with the correct value when active file.
Vertical Total Lines	already filled when an active file is selected to be edited
Active Lines	number of horizontal lines determining the height of the projected image. This value is normally given in the specification of the source. If not, adjust until full image height is displayed (no missing lines)
Vertical Start	number of lines between the start of the input signal and start of the image on the screen.
AMDS INTL [ON/OFF]	
Still [On/Off]	• On interlaced files switching the STILL option 'ON' or 'OFF' turns the de-interlacing on or off. • For video files the default setting will be 'ON'. This increases the perceived image quality by reducing the flicker (caused by the interlacing) and improves the interpolation (better sharpness with less artefacts). However when the image data is moving very fast, in other words when there's almost no correlation between succeeding field data in a certain area, one might prefer to put the still mode 'OFF' to avoid motion artefacts. • In interlaced data files, the option for that type of files would be set to 'OFF' by default. In that case the user might still prefer to put the still option 'ON' when applying test patterns. • On non interlaced files it turns the so called despeckle mode on or off. The default setting for non interlaced files is 'OFF'. This option is useful to reduce many kinds of variable disturbances, even clearly visible spikes in the video data signal or unstable phase situations when using high frequency pixel clocks or bad sources. This is done using a statistical filter which eliminates disturbances that only occur in one field. The still mode reduces (potential) image disturbances but can introduce motion artefacts.
Read AMDS	AMDS = Automatic Mode Detection & Synchronization During the installation of a file with LOAD, the system automatically measured the horizontal period, the total vertical lines and the interlaced mode. When selecting Read AMDS, the system remeasures the above indicated items.

How to install the correct settings for the options in the Edit file menu.

```
EDIT FILE OPTIONS
Source number      1
Clamp delay        0
Clamp width        10
Field polarity     [pos]

Select with ↑ or ↓
<ENTER> to toggle
↑ or ↓ to change value
<EXIT> to return
```

Menu 5-11

Source number	The source number of a non-active source can be changed to any other source number. This makes it possible to create a file for future source numbers.
Clamp delay	The time between the leading edge of the clamp pulse and the locked edge of the sync pulse. Can be any value between 0 and 255. Change the value by pushing the cursor key ↑ or ↓.
Clamp width	The width of the clamp pulse can be any value between 0 and 255. Change the value by pushing the cursor key ↑ or ↓.

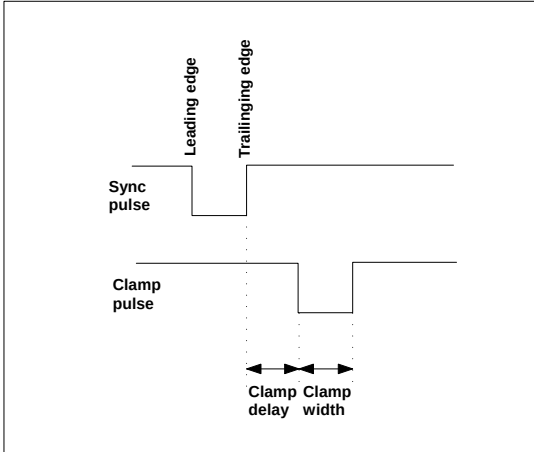


Image 5-1
Example for *Clamp position* [trailing]

Field polarity	The field polarity function is used for interlaced images. Both rasters of the image could be shifted in a wrong way (double lines are visible in the image). This can be corrected by forcing the field polarity to [neg] or [pos]. Use the ENTER key to toggle between [pos] and [neg].
----------------	--

5.3.5.4 Rename

Start Up

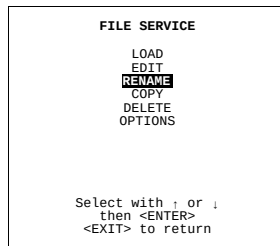
To change the name of a selected file :

1. Push the cursor key ↑ or ↓ to highlight *Rename*. (menu 5-12)
2. Press **ENTER**.

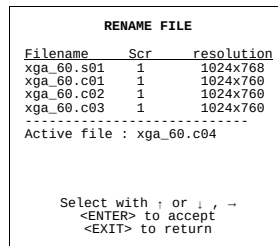
The Rename selection menu will be displayed. (menu 5-13)

3. Push the cursor key ↑ or ↓ to select a file name.
4. Press **ENTER** to select.

The Rename file menu will be displayed with the selected file name already filled in, leave in the 'From file name : ' area and in the 'To file name : ' area. The first character in the 'To file name : ' area is highlighted.



Menu 5-12



Menu 5-13

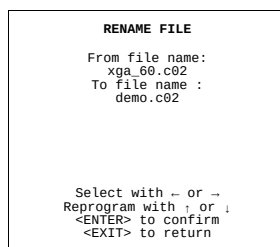
Changing the characters

1. Push the cursor keys ← or → to select the desired character. (menu 5-14)
Or,
Change that character by pushing the cursor keys ↑ or ↓. Numeric characters can be entered directly with numeric keys on the RCU.
Or,
Press **ENTER** to confirm.

The renamed file is entered in the list of files.

2. Press **EXIT** to return to the Rename menu selection.

No changes are made.



Menu 5-14

5.3.5.5 Copy

Start Up

To copy the name of a selected file :

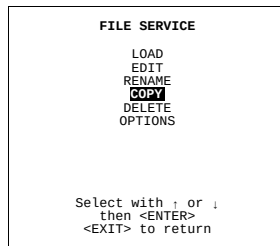
1. Push the cursor key ↑ or ↓ to highlight *Copy*. (menu 5-15)
2. Press **ENTER**.

The Copy selection menu will be displayed. (menu 5-16)

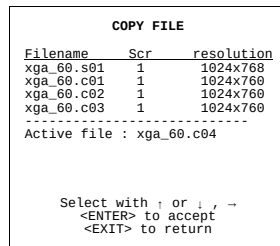
3. Push the cursor key ↑ or ↓ to select a file name.

4. Press **ENTER** to select.

The Copy file menu will be displayed with the selected file name already filled in, leave in the 'From file name :' area and in the 'To file name :' area. The first character in the 'To file name :' area is highlighted.



Menu 5-15



Menu 5-16

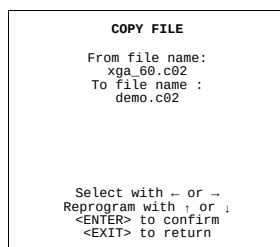
Changing the characters

1. Push the cursor key ← or → to select the desired character. (menu 5-17)
Or,
Change that character by pushing the cursor keys ↑ or ↓. Numeric characters can be entered directly with numeric keys on the RCU.
Or,
Press **ENTER** to confirm.

The copy file is entered in the list of files.

2. Press **EXIT** to return to the Copy menu selection.

No changes are made.



Menu 5-17

5.3.5.6 Delete

Start up and delete

To delete a selected file out of the list of files :

1. Push the cursor key ↑ or ↓ to highlight *Delete*. (menu 5-18)
2. Press **ENTER**.

The delete selection menu will be displayed. (menu 5-19)

3. Push the cursor key ↑ or ↓ to select a file name.

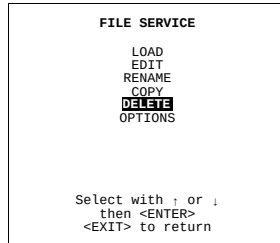
- Press **ENTER** to select.

If [all] is selected, your password has to be entered before all files will be deleted.

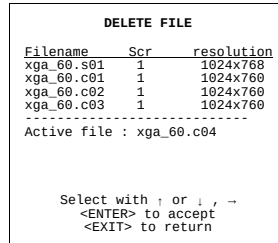
A confirmation menu "Delete file name ?" is displayed. (menu 5-20)

- Press **ENTER** to delete the file, press **EXIT** if you want to keep it.

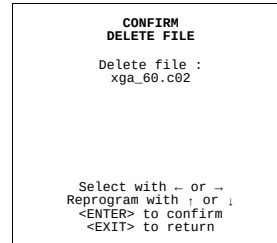
Note: The active file cannot be deleted.



Menu 5-18



Menu 5-19



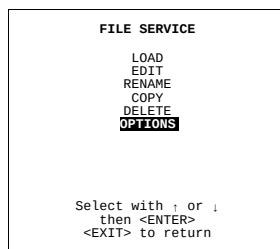
Menu 5-20

5.3.5.7 File Options

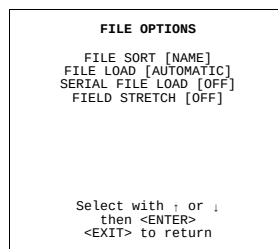
Start up

- Push the cursor key ↑ or ↓ to highlight *Options*. (menu 5-21)
- Press **ENTER** to select.

The option selection menu will be displayed. (menu 5-22)



Menu 5-21



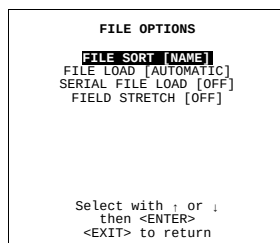
Menu 5-22

File Sort

- Push the cursor key ↑ or ↓ to highlight *File Sort*. (menu 5-23)
- Press **ENTER** to toggle between [NAME] or [INDEX].

This File Sort setting is default set to [NAME].

[NAME]	The files in the list will be sorted on the file name.
[INDEX]	The files in the list will be sorted on the file extension.



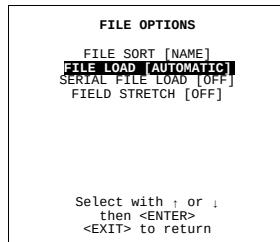
Menu 5-23

File Load

1. Push the cursor key ↑ or ↓ to highlight *File Load*. (menu 5-24)
2. Press **ENTER** to toggle between [AUTOMATIC] or [MANUAL].

This File Load setting is default set to [AUTOMATIC].

[AUTOMATIC]	The projector will automatically load the file that is best suited for the selected Input Slot.
[MANUAL]	The user will select and load the desired file.



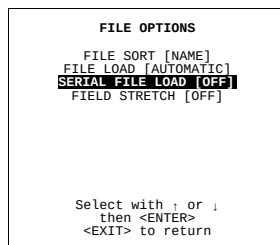
Menu 5-24

Serial File Load

1. Push the cursor key ↑ or ↓ to highlight *Serial File Load*. (menu 5-25)
2. Press **ENTER** to toggle between [OFF] or [ON].

This Serial File Load setting is default set to [OFF].

[OFF]	The Serial File Load command is set to off.
[ON]	The projector is forced to load a file through RS232, all other means to load a file are disabled until Serial File Load is set to off.



Menu 5-25

Field Stretch (Optional)

1. Push the cursor key ↑ or ↓ to highlight *Field Stretch*.
Note: The *Field Stretch* menu item will be greyed out when this option is not installed.
2. Press **ENTER** to toggle between [OFF] or [ON].
Note: The field stretch functionality compensates for the lack of bandwidth on some older IG's.

Complicated source content will result in long render times, the field stretch option will give the IG extra time to render the source content, before sending the next source field.

According to the complexity of the content, this extra time will vary in time, resulting in a variable vertical field time.

The projector's field stretch option allows the projector to deal with 'field stretch' source content.

This Field Stretch setting is default set to [OFF].

[OFF]	Field Stretch is set to off.
[ON]	Field Stretch is set to on, when available on the IG, this will allow the projector to receive 'field stretch' source content.

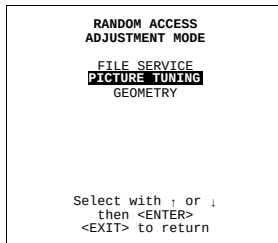
5.4 Picture Tuning

5.4.1 Starting up Picture Tuning

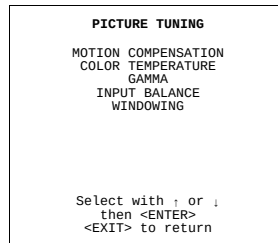
How to start up ?

1. Push the cursor key ↑ or ↓ to highlight *Picture Tuning*. (menu 5-26)
2. Press **ENTER** to select.

The *Picture Tuning* menu will be displayed. (menu 5-27)



Menu 5-26



Menu 5-27

Which items are available ?

- Motion compensation
- Color temperature
- Gamma
- Input balance
- Windowing

5.4.2 Motion Compensation (TMR) (Optional)



The Motion Compensation menu item will be greyed out when this option is not installed.

Overview

- Starting up the Motion Compensation
- LCD speed
- LCD speed R/G
- LCD speed B/G

What can be done ?

Motion Compensation allows to change the response time of the LCD panels.

The following options can be adjusted:

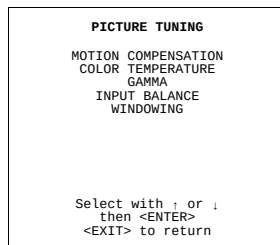
- LCD speed
- LCD speed R/G
- LCD speed B/G

5.4.2.1 Starting up the Motion Compensation

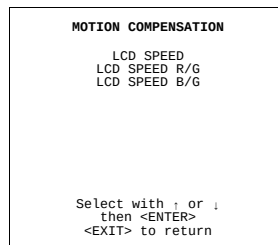
How to start up ?

1. Push the cursor key ↑ or ↓ to highlight *Motion compensation*. (menu 5-28)
2. Press **ENTER** to select.

The *Motion Compensation* menu will be displayed. (menu 5-29)



Menu 5-28



Menu 5-29

5.4.2.2 LCD speed

What can be done ?

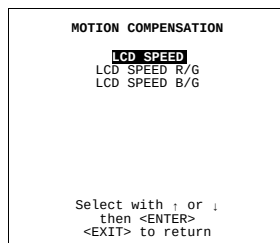
The response time of the LCD's can be modified.

Range: 0–16

Default: 8

How to set the LCD speed ?

1. Push the cursor key ↑ or ↓ to highlight *LCD speed*. (menu 5-30)
2. Press **ENTER** to select.
A sliderbow will be displayed
3. Push the cursor key ← or → to set the LCD speed.



Menu 5-30

5.4.2.3 LCD speed R/G

What can be done ?

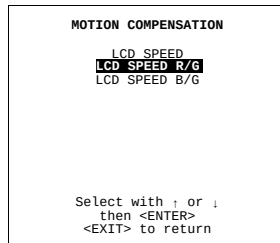
The response time of the Red LCD compared to the Green LCD can be modified.

Range: 0–2 with steps of 0.125

Default: 1.00

How to set the Red LCD speed ?

1. Push the cursor key ↑ or ↓ to highlight *LCD speed R/G*. (menu 5-31)
2. Press **ENTER** to select.
A sliderbow will be displayed
3. Push the cursor key ← or → to set the Red LCD speed.



Menu 5-31

5.4.2.4 LCD speed B/G

What can be done ?

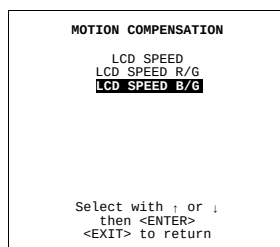
The response time of the Blue LCD compared to the Green LCD can be modified.

Range: 0–2 with steps of 0.125

Default: 1.00

How to set the Blue LCD speed ?

1. Push the cursor key ↑ or ↓ to highlight *LCD speed B/G*. (menu 5-32)
2. Press **ENTER** to select.
A sliderbow will be displayed
3. Push the cursor key ← or → to set the Blue LCD speed.



Menu 5-32

5.4.3 Color Temperature

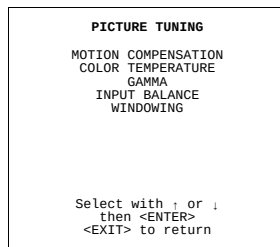
Available Color temperatures

- Projector white
- Broadcast 3200K
- Film 5400K
- Video 6500K
- Computer 9300K
- Custom balance

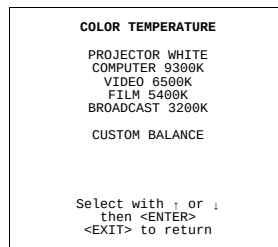
How to start up ?

1. Push the cursor key ↑ or ↓ to highlight *Color Temperature*. (menu 5-33)
2. Press **ENTER** to select.

The color temperature selection menu will be displayed. (menu 5-34)



Menu 5-33



Menu 5-34

Adjusting the color balance

1. Adjusting the color balance by selecting a fixed color balance ?

If yes, Push the cursor key ↑ or ↓ to highlight one of the preprogrammed color balances. Press **ENTER** to select

Note: Projector white will provide maximum projector light output. The calibrated 'Broadcast', 'Film', 'Video' and 'Computer' presets will provide optimum color tracking.

If no, go to step 2

2. Push the cursor key ↑ or ↓ to adjust red and push the cursor key ← or → to adjust blue (range 0 to 2.5) in comparison with the green color. (image 5-2)



Image 5-2

5.4.4 Gamma

What can be adjusted ?

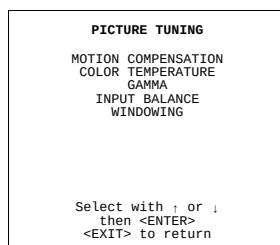
With the gamma correction adjustment, it is possible to accurately set the gamma of the projector image.

Changing the Gamma value

1. Push the cursor key ↑ or ↓ to highlight *Gamma*. (menu 5-35)
2. Press **ENTER** to select.
3. Change the gamma value by pushing the cursor key ← or → until the desired value is reached.

Note: Default value of gamma : 1.9

4. Press **EXIT** to return to the *Picture Tuning* menu.



Menu 5-35

5.4.5 Input Balance

Why adjusting the input balance?

The input balance is normally correct adjusted in the factory. But due to signal distribution or signal transmission outputs a color imbalance can be the result. This imbalance can be adjusted source by source for color critical applications. These adjustments

influence only the actual custom adjustment file. This procedure is not so easy and is best done or first demonstrated by an authorized Barco service technician.

Step to be taken

To adjust the input balance, the following steps have to be executed in the following order:

1. The procedure is best done when using a source that can generate a full black and full white image.
2. Start with the Black Balance.
3. Continue with the White Balance.

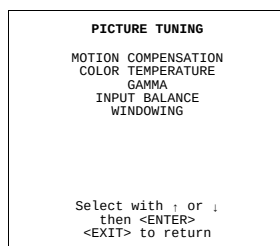


The default values are normally loaded with the factory preset when selecting a source. If the image is not as desired, continue with the next procedure.

How to start up Input Balance?

1. Push the cursor key ↑ or ↓ to highlight *Input Balance* and press **ENTER** to select. (menu 5-36)

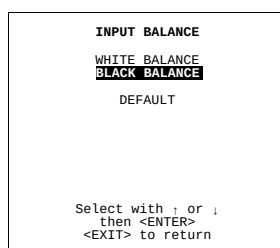
The *Input Balance* menu will be displayed.



Menu 5-36

How to adjust the Black Balance?

1. Generate a full black image on the source. (image 5-3)
2. Push the cursor key ↑ or ↓ to highlight *Black Balance* and press **ENTER** to select. (menu 5-37)
3. Use the cursor keys ← and → to lower the Black Level of the Blue and Red color.
4. Use the **Brightness + or -** key to adjust the Black Level of the Green Color until there is ±50% noise visible. (image 5-4)
5. Use the → and ↑ key to raise the Black Level of the Blue and Red Color until there is ±50% noise visible.
6. Press **EXIT** to return to *Input Balance* menu.



Menu 5-37

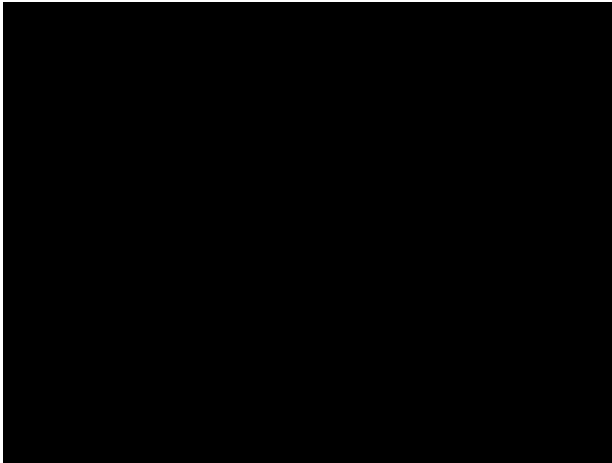


Image 5-3
Full black image on the source

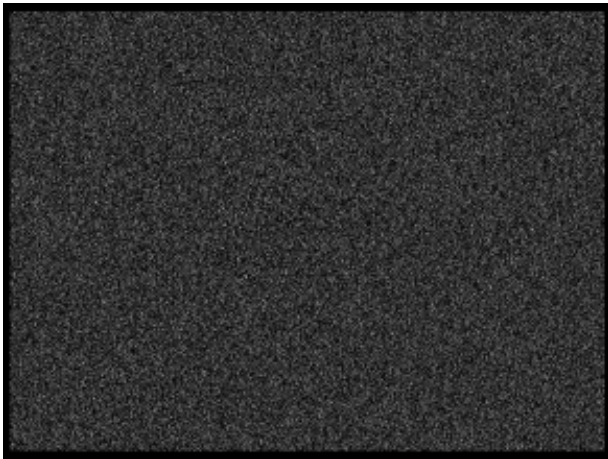
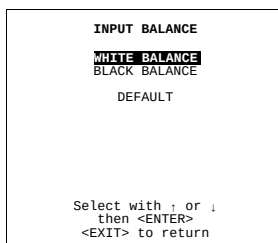


Image 5-4
Perfect Black Balance

How to adjust the White Balance?

1. Generate a full white image on the source. (image 5-5)
2. Push the cursor key $\uparrow$ or $\downarrow$ to highlight *White Balance* and press **ENTER** to select. (menu 5-38)
3. Use the cursor keys $\leftarrow$ and $\rightarrow$ to lower the Gain of the Blue and Red color.
4. Use the **Contrast + or -** key to adjust the Gain of the Green Color until there is $\pm 50\%$ noise visible. (image 5-6)
5. Use the $\rightarrow$ and $\uparrow$ key to raise the Gain of the Blue and Red Color until there is $\pm 50\%$ noise visible.
6. Press **EXIT** to return to *Input Balance* menu.



Menu 5-38



Image 5-5
Full white image on the source

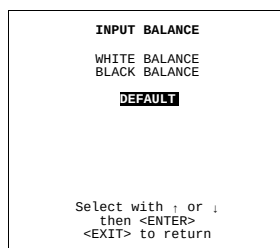


Image 5-6
Perfect White Balance

How to return to the Default factory preset?

1. Push the cursor key ↑ or ↓ to highlight *Default* and press **ENTER** to select. (menu 5-39)

The input balance is set to the default factory preset.



Menu 5-39

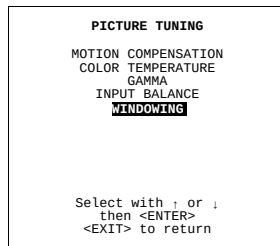
5.4.6 Windowing

5.4.6.1 Starting Up Windowing

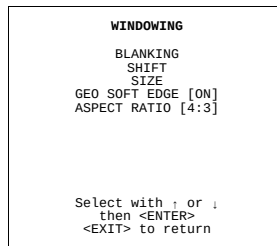
How to Start Up the Windowing menu?

1. Push the cursor key ↑ or ↓ to highlight *Windowing*. (menu 5-40)
2. Press **ENTER** to select.

The *Windowing* menu will be displayed. (menu 5-41)



Menu 5-40



Menu 5-41

5.4.6.2 Blanking (Windowing)

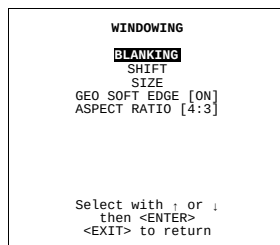
What can be done with Blanking (Windowing)?

With the Blanking function it is possible to black out the side(s) of the image while keeping the pre-distorted WARP 6™ geometry settings of the image.

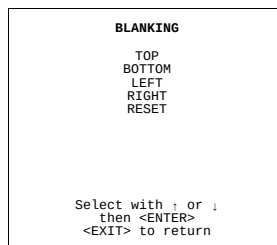
How to Start Up Blanking (Windowing)?

1. Push the cursor key ↑ or ↓ to highlight *Blanking*. (menu 5-42)
2. Press **ENTER** to select.

The *Blanking* menu will be displayed. (menu 5-43)



Menu 5-42



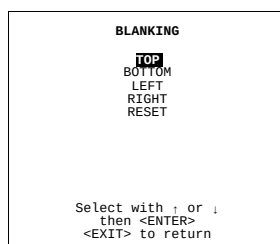
Menu 5-43

How to use the Blanking (Windowing) adjustment?

1. Push the cursor key ↑ or ↓ to highlight the desired side e.g. Top. (menu 5-44)
2. Press **ENTER** to select.

A barscale indication will be displayed. (image 5-7)

3. Push the cursor keys to black out the side(s) of the image. (image 5-8)



Menu 5-44

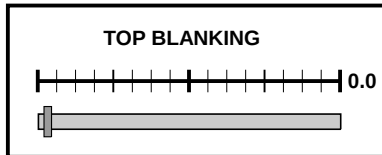


Image 5-7
Top Blanking barscale

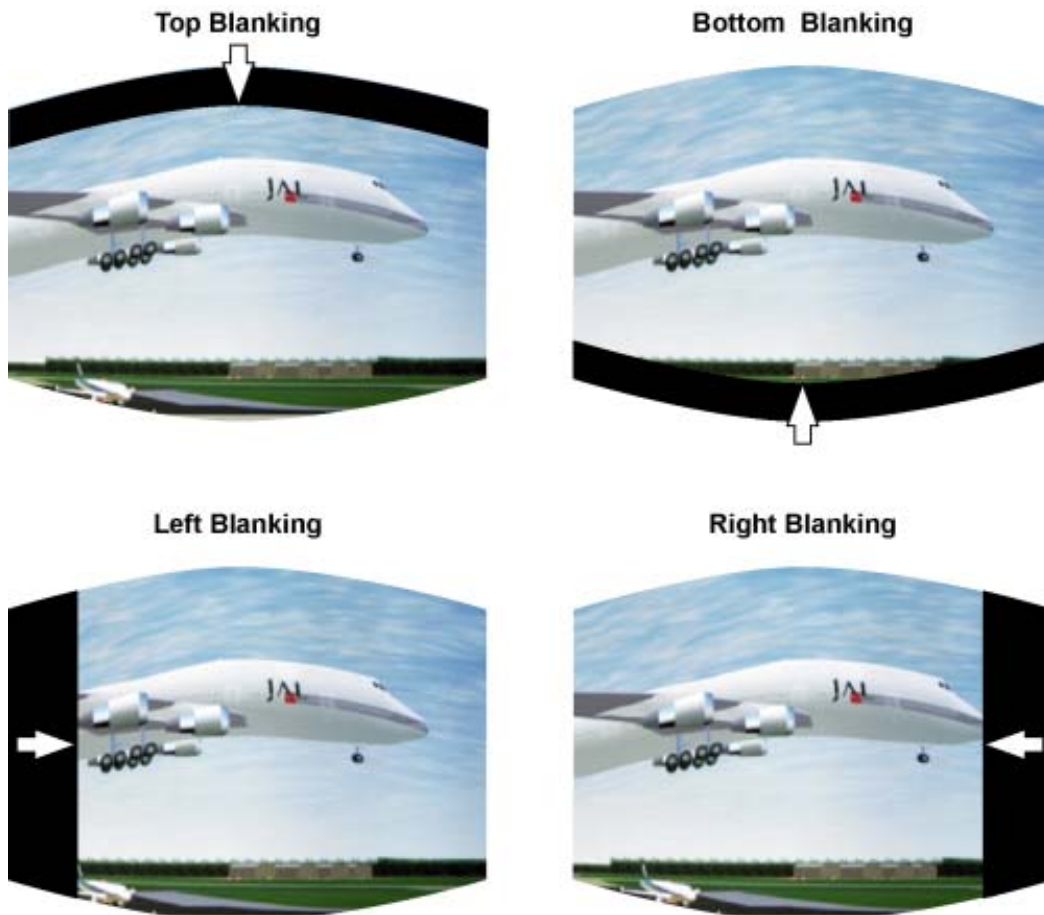
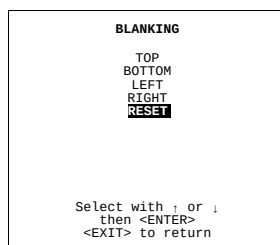


Image 5-8
Blanking (Windowing) adjustment

How to reset the Blanking adjustment(s)?

1. Push the cursor key ↑ or ↓ to highlight *Reset*. (menu 5-45)
2. Press **ENTER** to reset all blanking adjustments.



Menu 5-45

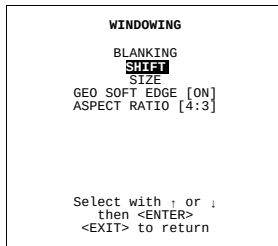
5.4.6.3 Shift (Windowing)

What can be done with Shift (Windowing)?

With the Shift function it is possible to shift the image while keeping the pre-distorted WARP 6™ geometry settings of the image.

How to Start Up the Shift adjustment?

1. Push the cursor key ↑ or ↓ to highlight *Shift*. (menu 5-46)
2. Press **ENTER** to select.
A barscale indication will be displayed. (image 5-9)
3. Push the cursor key ← or → to shift the image horizontally. (image 5-10)
4. Push the cursor key ↑ or ↓ to shift the image vertically. (image 5-11)



Menu 5-46

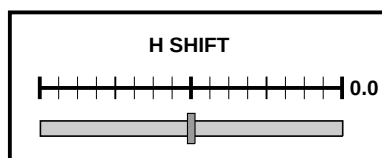


Image 5-9
Horizontal Shift barscale



Image 5-10
Horizontal Shift (Windowing) adjustment



Image 5-11
Vertical Shift (Windowing) adjustment

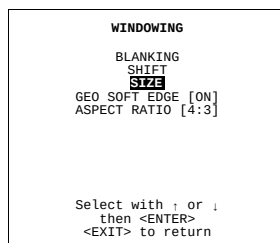
5.4.6.4 Size (Windowing)

What can be done with Size (Windowing)?

With the Size function it is possible to adjust the size of the image while keeping the pre-distorted WARP 6™ geometry settings of the image.

How to Start Up the Size adjustment?

1. Push the cursor key ↑ or ↓ to highlight *Size*. (menu 5-47)
2. Press **ENTER** to select.
A barscale indication will be displayed. (image 5-12)
3. Push the cursor key ← or → to adjust the horizontal size of the image. (image 5-13)
4. Push the cursor key ↑ or ↓ to adjust the vertical size of the image. (image 5-14)



Menu 5-47

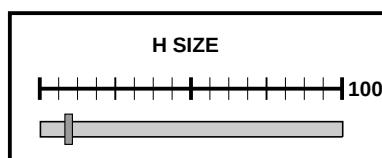


Image 5-12
H Size barscale indication

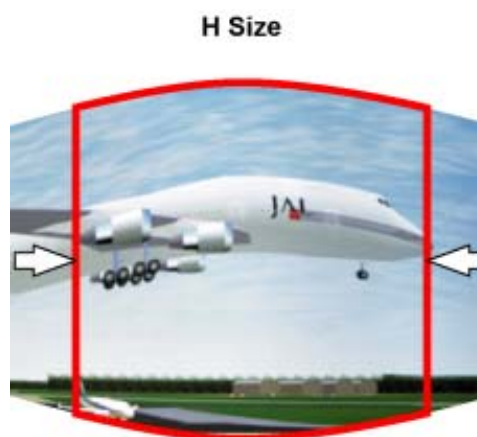


Image 5-13
Horizontal Size adjustment

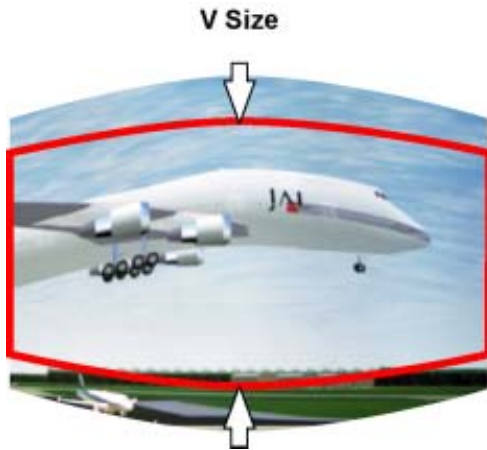


Image 5-14
Vertical Size adjustment

5.4.6.5 Geo Soft Edge

What can be done with Geo Soft Edge?

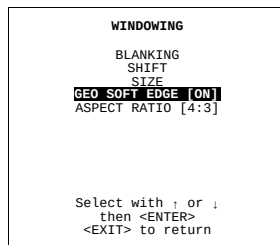
When setting up a soft edge (see Electronic Soft Edge), these settings are applied on all sources (source files). With the Geo Soft Edge toggle it is possible to disable the soft edge settings.



Geo Soft Edge is default set to On.

How to change the Geo Soft Edge Setting?

1. Push the cursor key ↑ or ↓ to highlight *Geo Soft Edge*. (menu 5-48)
2. Press **ENTER** to toggle *Geo Soft Edge* [OFF] or [ON].



Menu 5-48

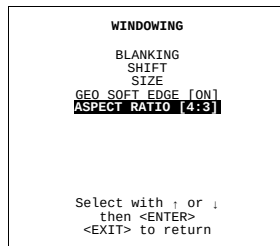
5.4.6.6 Aspect Ratio

What can be done?

Select the desired Aspect Ratio.

How to change the Aspect Ratio?

1. Push the cursor key ↑ or ↓ to highlight *Aspect Ratio*. (menu 5-49)
2. Press **ENTER** to toggle between the available Aspect Ratio settings:
 - [4:3] (Default for SIM 6 Ultra)
 - [5:4] (Default for SIM 6 + WARP 6 and SIM 6 MKII + WARP 6)
 - [16:9]



Menu 5-49

5.5 Geometry³

Overview

- Introduction
- Geometry Start up
- Geometry file annotation
- Setting up a new Geometry file
- Possible Geometry file manipulations
- Load
- Edit
- Rename
- Copy
- Delete

5.5.1 Introduction

What can be done with the WARP 6™ Geometry adjustments ?

With the new WARP 6™ fitted in the BARCOREALITY SIM6 ULTRA, fixed-matrix projectors can be used in a wide variety of curved-screen applications, ranging from straightforward cylindrical displays to the wildest shapes that can be imagined: by pre-distorting the image inside the projector, a correct geometry can be achieved on curved screens, without requiring additional computational power on the IG's side. Since WARP 6™ is integrated in the BARCOREALITY SIM6 ULTRA Pixel Map Processor, it is an elegant and user-friendly solution for even the most demanding applications.

Using the intuitive user interface, bows can be set up and modified in a flash, giving the user real-time access to the distortion characteristics. For fine-tuning the image, the user has to access to individual grid points that can be shifted to their desired location.

5.5.2 Geometry Start up



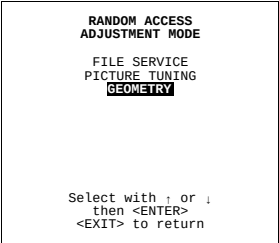
All menus within the Geometry adjustment mode are made semi-transparent to allow an easy interaction between the numeric adjustment values and the result on the projected image.

3. When the WARP 6™ option is activated

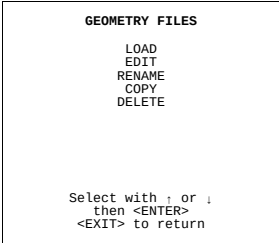
How to start up ?

- 1. Push the cursor key ↑ or ↓ to highlight *Geometry*. (menu 5-50)
- 2. Press **ENTER** to select.

The *Geometry files* menu will be displayed. (menu 5-51)



Menu 5-50



Menu 5-51

5.5.3 Geometry file annotation

How is a Geometry file built up ?

The file notation in the *Geometry files* menu is built up in different parts. Let us have a look to these parts.

Take the following notation : xxxxxxxx.eee

xxxxxxx	base name, 8 characters
eee	file extension: first character t : geometry preset file. first character g : geometry user file. The second and third character is used for a following number (= file index). The file index for custom files : 00 to 63.

Table 5-10

5.5.4 Setting up a new Geometry file

How to set up a new Geometry file ?

- 1. Load the start up file: *t_nodist.t01*.
- 2. Select the *EDIT* menu and perform the necessary adjustments.
- 3. When leaving the *EDIT* menu a new geometry user file is automatically saved.

5.5.5 Possible Geometry file manipulations

What are the possible file manipulations ?

The following file manipulations are possible :

- Load : setting up a new geometry set up.
- Edit : editing a geometry file, when leaving the *EDIT* menu a geometry user file is automatically saved.
- Rename : renaming a geometry file.
- Copy : copying a geometry file.
- Delete : deleting a geometry file

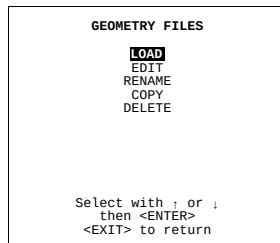
5.5.6 Load

How to start up ?

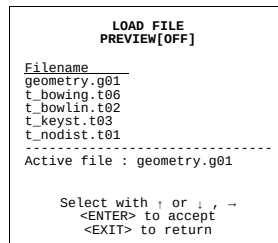
To start up the *Load File* menu, handle as follow :

1. Push the cursor key ↑ or ↓ to highlight *Load*. (menu 5-52)
2. Press **ENTER** to select.

The *Load File* menu will be displayed. (menu 5-53)



Menu 5-52



Menu 5-53

How to change the Preview setting ?

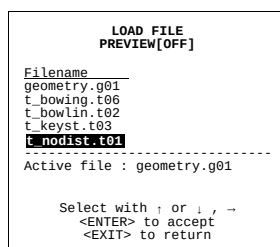
1. Push the cursor key → to highlight *Preview*.
2. Press **ENTER** to toggle the *Preview* mode [OFF] [ON].

OFF	When highlighting a geometry file from the list, the geometry adjustments will be applied only when selecting a file by pressing the ENTER key.
ON	The geometry adjustments are already applied when highlighting a file from the list, this will require some processing time from the projector when scrolling through the list of available files.

How to Load a file ?

1. When starting a new set up ?
If yes, Push the ↓ key to highlight the "*t_nodist.t01*" filestep 2 (menu 5-54)
If no, When editing an existing set up push the ↑ or ↓ to highlight the corresponding user file .
2. Press **ENTER** to select.

The selected geometry file will become the active file and the *Geometry files* menu will be displayed again.



Menu 5-54

5.5.7 Edit

Overview

- Introduction
- Start up
- Coarse
- Linearity adjustment
- Fine
- Shift
- Transport Delay
- Blanking
- Electronic Soft Edge (Optional)
- Reset

5.5.7.1 Introduction

How does it work ?

- The projected image on the screen is divided in 81 zones. Each zone represents a grid point that can be shifted to the desired location. These grid points will interact with each other in a hierarchic way, adjusting a grid point on a certain hierarchic level will affect all grid points underneath.

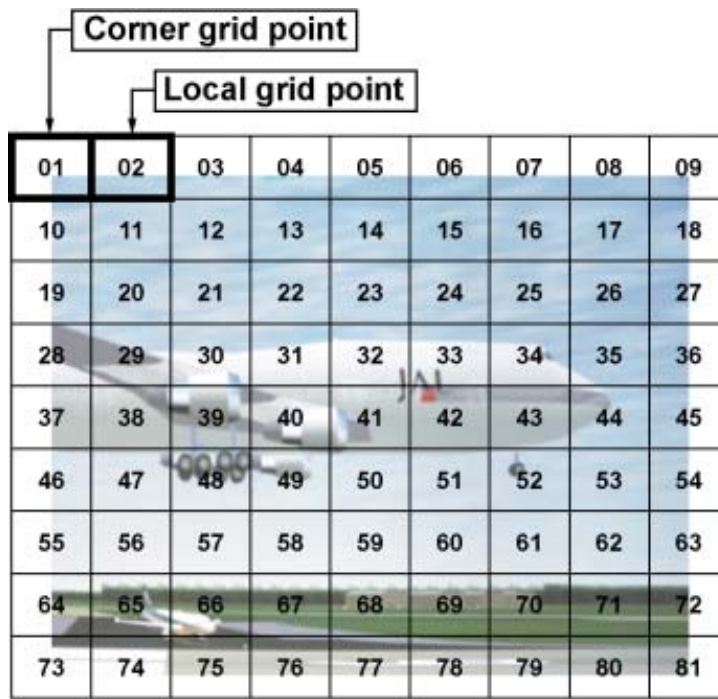


Image 5-15
81 grid points

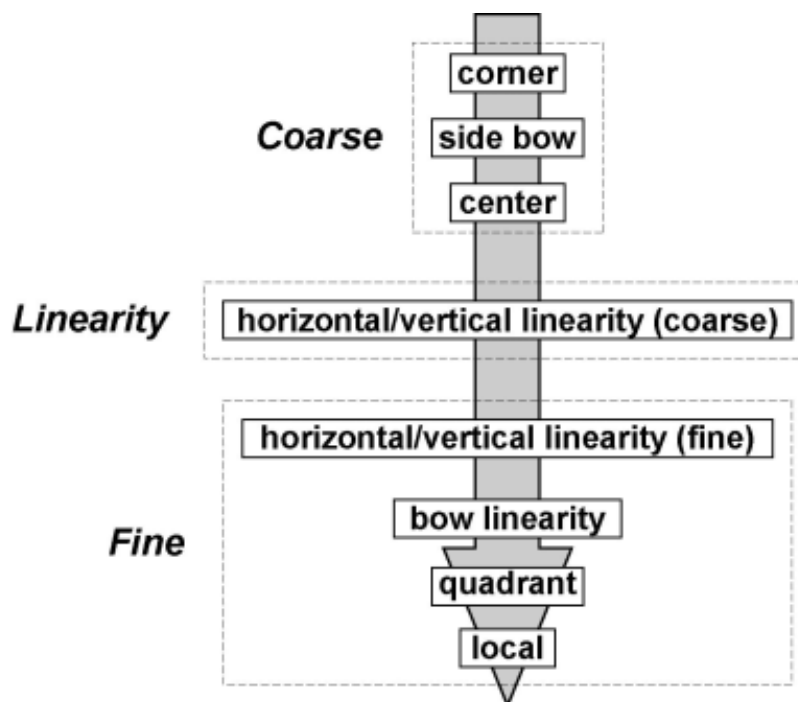


Image 5-16
Hierarchic editing structure

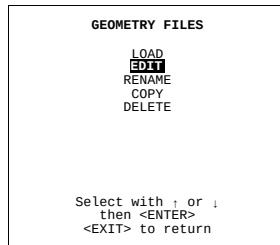
- On top of this hierarchy are the corner grid points, when adjusting these grid points all other points underneath will be adjusted.
- At the bottom of the structure we find the local points, adjusting these points will not affect any other grid points.
- The best results are obtained by applying the geometry settings in the same top to bottom order as listed in the menu interface.

5.5.7.2 Start up

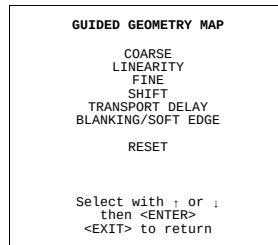
How to Start up the Edit mode ?

1. Push the cursor key ↑ or ↓ to highlight *Edit* in the *Geometry Files* menu. (menu 5-55)
2. Press **ENTER** to select.

The *Guided Geometry Map* menu will be displayed. (menu 5-56)



Menu 5-55



Menu 5-56

5.5.7.3 Coarse

Overview

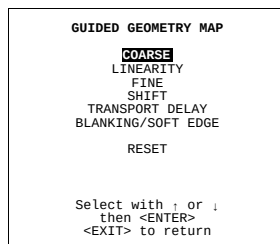
- Start up
- Corner selection
- Corner adjustment
- Side Bow selection
- Bow shaped pre-distortion set up
- Coarse linearity adjustment using Side Bows
- Center selection
- Center adjustment

5.5.7.3.1 Start up

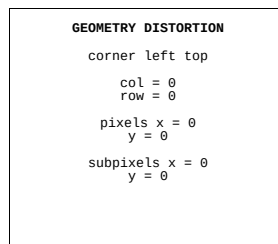
How to Start up the Coarse adjustment ?

1. Push the cursor key ↑ or ↓ to highlight *Coarse* in the *Guided Geometry Map* menu. (menu 5-57)
2. Press **ENTER** to select.

The *Geometry Distortion* menu will be displayed. (menu 5-58)



Menu 5-57



Menu 5-58

5.5.7.3.2 Corner selection

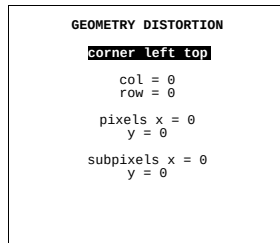
What can be done ?

With the Coarse Corner selection it is possible to adjust the basic geometry and size of the projected image.

How to select the Corners ?

1. Push the cursor key ↑ or ↓ to highlight the Coarse selection. (menu 5-59)
2. By default *corner* is already selected, if not, press **ENTER** until *corner* is displayed.
3. Push the cursor key ← or → to select the desired Corner.

The *COL* & *ROW* (Column and Rows) indicator⁴ will show the corresponding position of the selected Corner and an indication box will be displayed on the screen. (image 5-17)



Menu 5-59

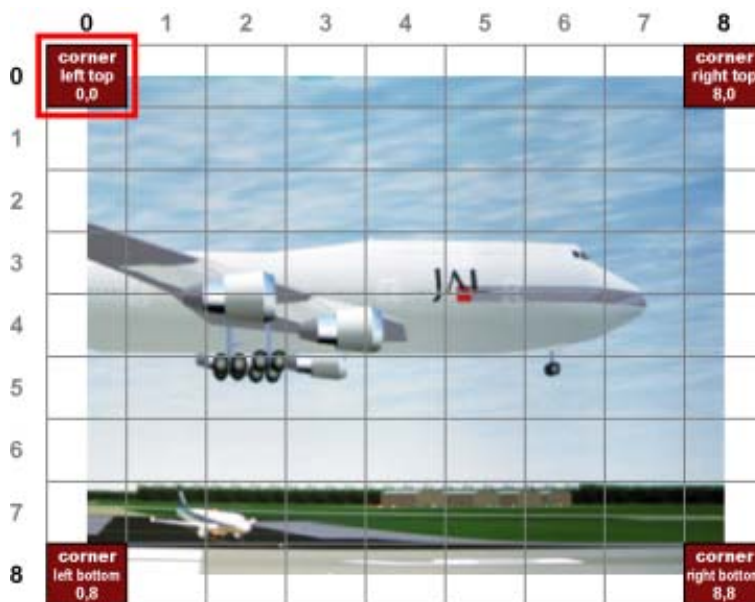


Image 5-17
Coarse Corner selections

5.5.7.3.3 Corner adjustment



To change a setting, only the method using the arrow keys is mentioned in the following procedures, the projector will need to recalculate every adjustment step.

For coarse adjustments it is also possible to enter the new value directly with the numeric keys on the RCU or local keypad.

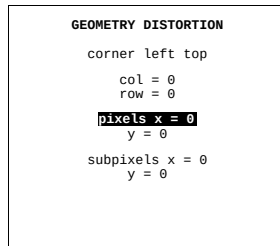
What is Pixel and Subpixel adjustment ?

Pixel	Coarse adjustment, this will shift the Corner in steps of 1 pixel
Subpixel	Fine tuning adjustment, this will shift the Corner in steps of 1/32 of a pixel

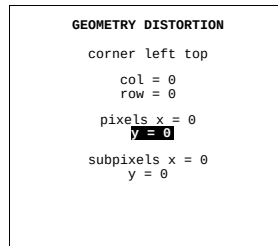
4. This *COL* & *ROW* indicates the position of the selected grid point within the 81 zones.

How to adjust the Corners ?

1. Push the cursor key $\uparrow$ or $\downarrow$ to select *pixel x = 0* in the *Geometry Distortion* menu. (menu 5-60)
2. Push the cursor key $\leftarrow$ or $\rightarrow$ to coarse shift the selected Corner in a horizontal way. (image 5-18)
3. Push the cursor key $\uparrow$ or $\downarrow$ to select *pixel y = 0* in the *Geometry Distortion* menu. (menu 5-61)
4. Push the cursor key $\leftarrow$ or $\rightarrow$ to coarse shift the selected Corner in a vertical way (Follow this procedure in a similar way to adjust any desired corner position). (image 5-19)
Note: Apply this procedure to perform a keystone correction: this is used to align the image if the projector is mounted at a non standard projector angle. (image 5-20)
5. Use the subpixel adjustments to fine shift the selected corners.
6. Continue with the Coarse Side Bow adjustment or press **EXIT** to return to the *Guided Geometry Map* menu.



Menu 5-60



Menu 5-61



Image 5-18
Corner pixel x adjustment



Image 5-19
Corner pixel y adjustment

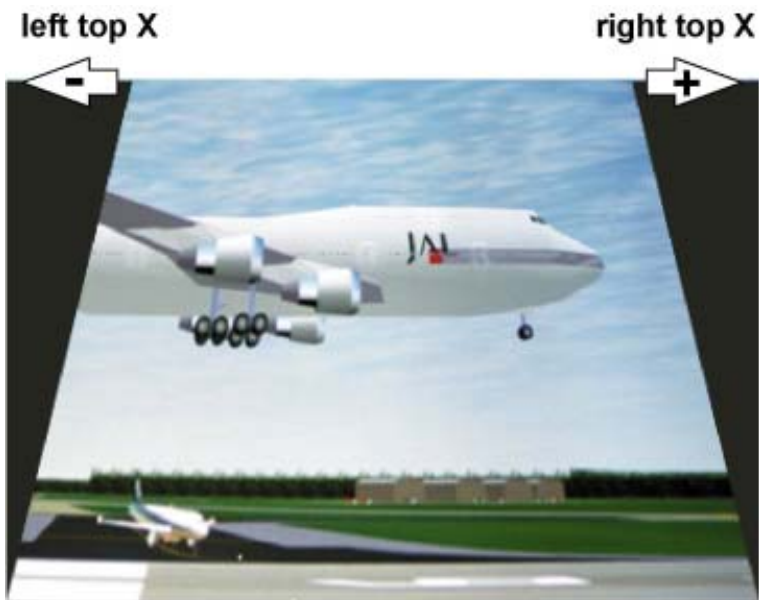


Image 5-20
Keystone correction

5.5.7.3.4 Side Bow selection

What can be done ?

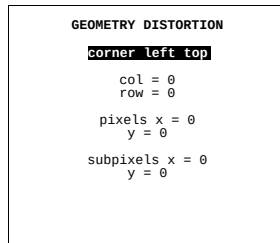
With the Coarse Side Bow selection it is possible to:

- apply a bow shaped pre-distortion on the projected image.
- perform a coarse linearity adjustment off the projected image.

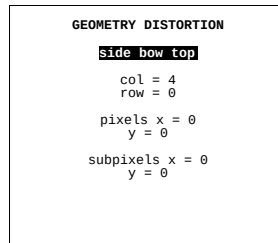
How to select the Side Bows ?

1. Push the cursor key ↑ or ↓ to highlight the Coarse selection. (menu 5-62)
2. Press **ENTER** to scroll through the available Coarse selections until *side bow* is displayed. (menu 5-63)
3. Push the cursor key ← or → to select the desired Side Bow.

The *COL* & *ROW* (Column and Rows) indicator will show the corresponding position of the selected Side Bow and an indication box will be displayed on the screen. (image 5-21)



Menu 5-62



Menu 5-63

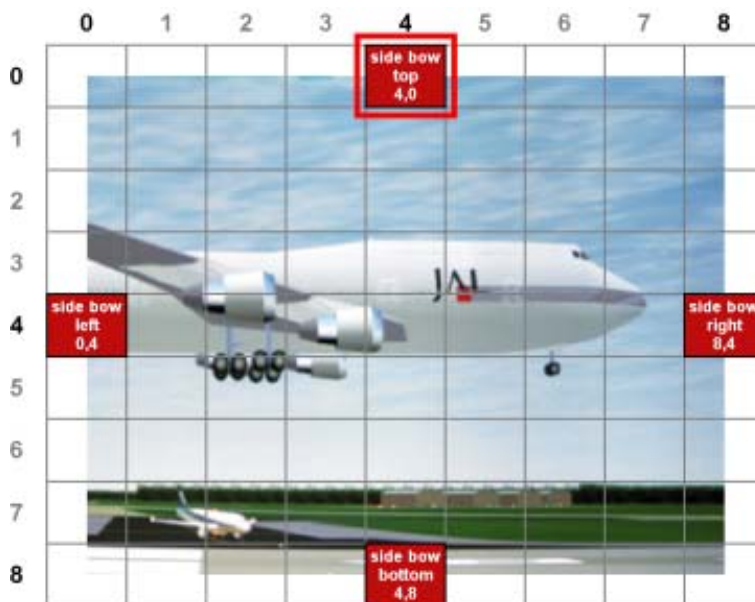


Image 5-21
Coarse Side Bow selections

5.5.7.3.5 Bow shaped pre-distortion set up

How to set up a bow shaped pre-distortion ?

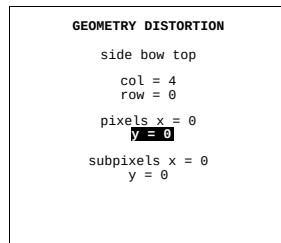
We assume *side bow top* is selected.

1. Push the cursor key $\uparrow$ or $\downarrow$ to select *pixel y = 0* in the *Geometry Distortion* menu. (menu 5-64)
2. Push the cursor key $\leftarrow$ or $\rightarrow$ to coarse shift the selected Side Bow in a vertical way.

This will result in a bow shaped pre-distorted image (Follow this procedure in a similar way to apply the desired bow shaped distortion). (image 5-22)

3. Use the subpixel adjustments to fine shift the selected side bow.

4. Continue with the Coarse Side Bow or Center adjustment or press **EXIT** to return to the *Guided Geometry Map* menu.



Menu 5-64

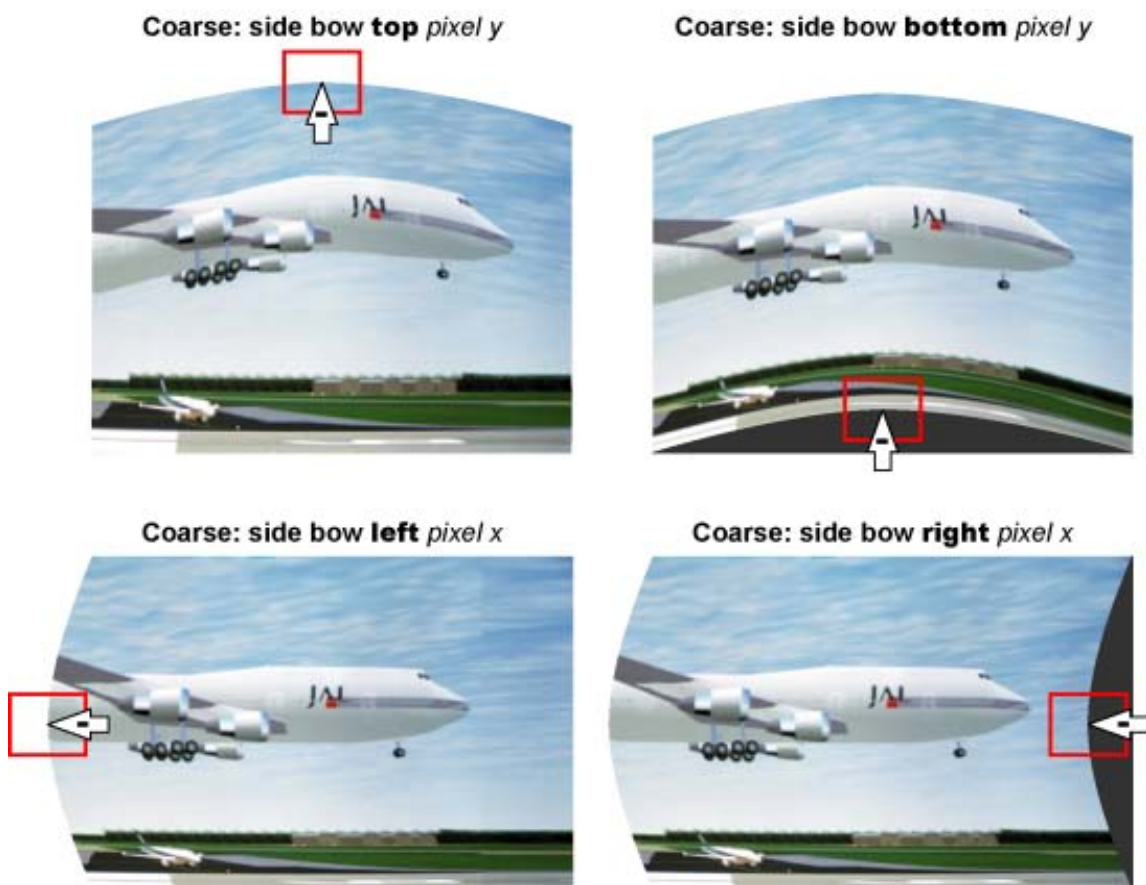


Image 5-22
Bow shaped pre-distortions

5.5.7.3.6 Coarse linearity adjustment using Side Bows



The Linearity adjustment is best done when a reference test pattern is projected on the screen.



By pressing the * key on the RCU an internal hatch pattern is projected instead of the image data.

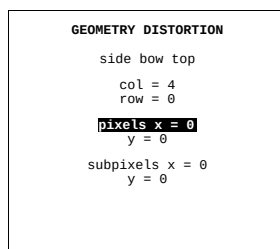
How to perform a coarse linearity adjustment by using the Side Bows?

We assume *side bow top* is selected.

1. Push the cursor key $\uparrow$ or $\downarrow$ to select *pixel x = 0* in the *Geometry Distortion* menu. (menu 5-65)
2. Push the cursor key $\leftarrow$ or $\rightarrow$ to coarse shift the selected Side Bow in a horizontal way.
3. Repeat step 1 to 2 for the Coarse *side bow bottom* selection.

This will shift the vertical center line, resulting in a coarse horizontal linearity adjustment (Follow this procedure in a similar way to shift the horizontal center line). (image 5-23)

4. Use the subpixel adjustments to fine shift the selected Side Bows.
5. Continue with the Coarse Center adjustment or press **EXIT** to return to the *Guided Geometry Map* menu.



Menu 5-65

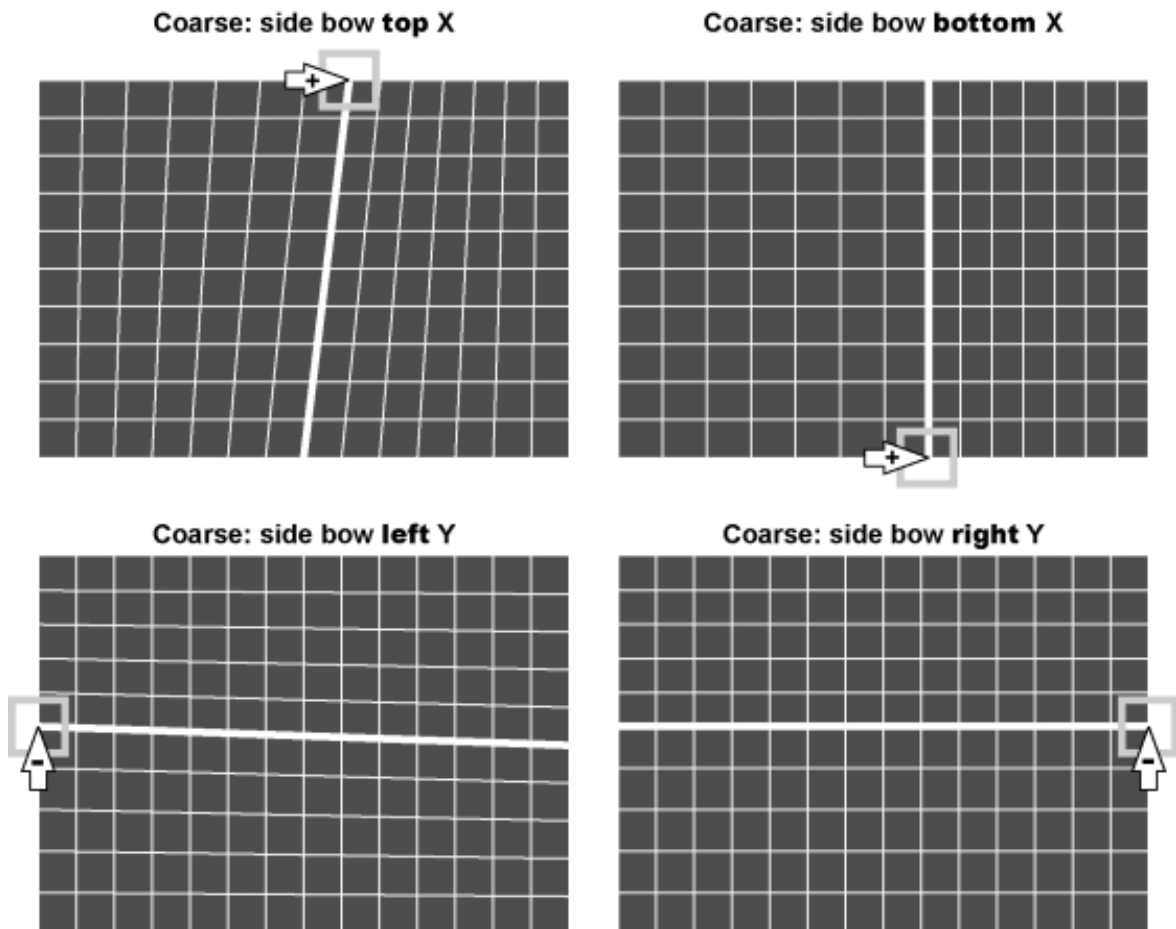


Image 5-23
Using side bows to perform a coarse linearity adjustment

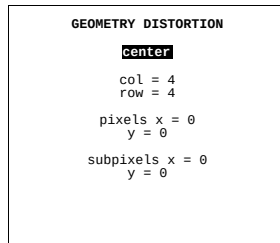
5.5.7.3.7 Center selection

What can be done ?

With the Coarse Center selection it is possible to perform a coarse bow correction on the projected image.

How to select the Center ?

1. Push the cursor key $\uparrow$ or $\downarrow$ to to highlight the Coarse selection.
2. Press **ENTER** until *center* is displayed. (menu 5-66)



Menu 5-66

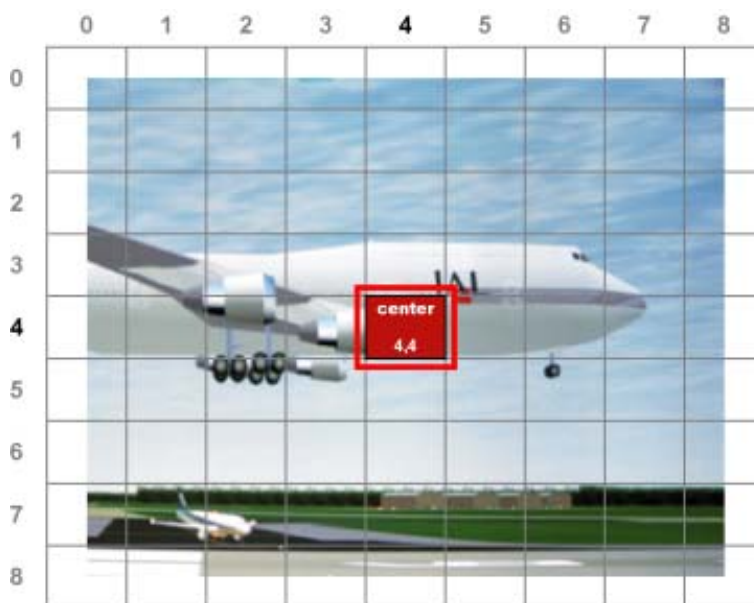


Image 5-24
Coarse Center selection

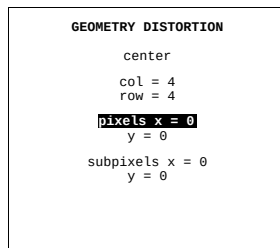
5.5.7.3.8 Center adjustment

How to adjust the Center ?

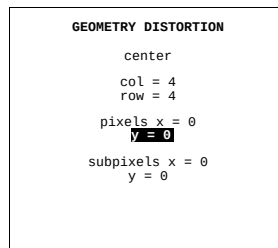
1. Push the cursor key $\uparrow$ or $\downarrow$ to select *pixel x = 0* in the *Geometry Distortion* menu. (menu 5-67)
2. Push the cursor key $\leftarrow$ or $\rightarrow$ to coarse shift the Center in a horizontal way. (image 5-25)
3. Push the cursor key $\uparrow$ or $\downarrow$ to select *pixel y = 0* in the *Geometry Distortion* menu. (menu 5-68)
4. Push the cursor key $\leftarrow$ or $\rightarrow$ to coarse shift the Center in a vertical way. (image 5-26)

5. Random Access

5. Use the subpixel adjustments to fine shift the Center.
6. When the Coarse adjustment is finished press **EXIT** to return to the *Guided Geometry Map* menu.



Menu 5-67



Menu 5-68

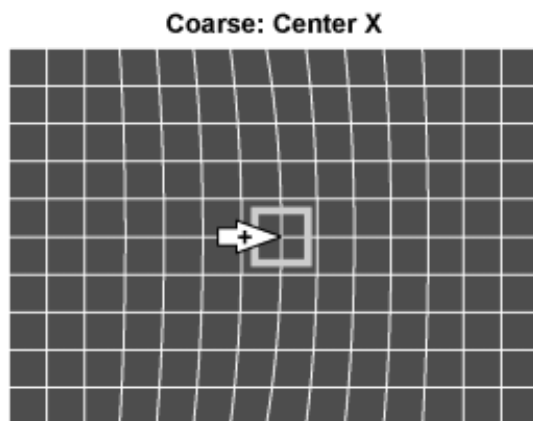


Image 5-25
Center pixel x adjustment

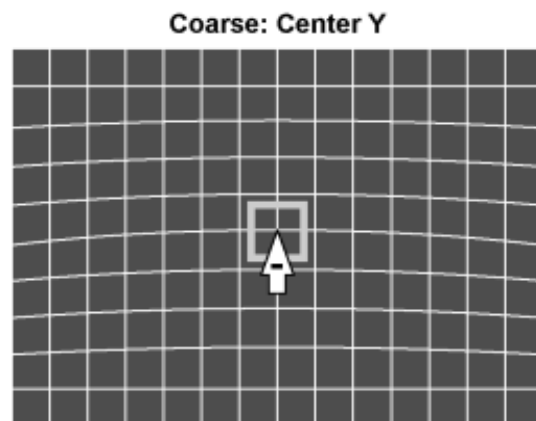


Image 5-26
Center pixel y adjustment

5.5.7.4 Linearity adjustment

Overview

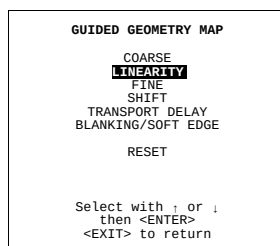
- Start up
- Horizontal or Vertical Linearity selection
- Horizontal Linearity adjustment
- Vertical Linearity adjustment

5.5.7.4.1 Start up

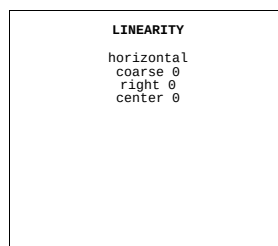
How to Start up the Linearity adjustment ?

1. Push the cursor key $\uparrow$ or $\downarrow$ to highlight *Linearity* in the *Guided Geometry Map* menu. (menu 5-69)
2. Press **ENTER** to select.

The *Linearity* menu will be displayed. (menu 5-70)



Menu 5-69



Menu 5-70

5.5.7.4.2 Horizontal or Vertical Linearity selection

What can be done with the Linearity adjustment ?

Within this Linearity adjustment mode it is possible to perform a coarse correction of the horizontal and vertical nonlinearity.



The Linearity adjustment is best done when a hatch pattern is projected on the screen.



By pressing the * key on the RCU an internal hatch pattern is projected instead of the image data.

How to select the Horizontal or Vertical Linearity ?

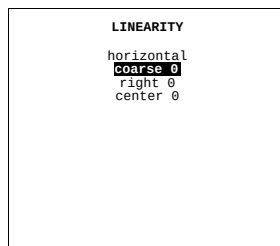
1. By default *horizontal* is selected.
2. Press **ENTER** to toggle between *horizontal* and *vertical*.

5.5.7.4.3 Horizontal Linearity adjustment

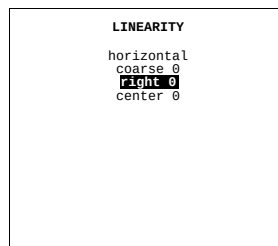
How to adjust the Horizontal Linearity ?

A correct Horizontal Linearity is achieved when the distances between the vertical lines of the hatch pattern are equal or almost equal from left to right.

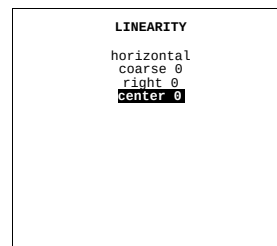
1. Is *Horizontal* Linearity selected ?
If yes, go to step 2
If no, Push the cursor key ↑ or ↓ to highlight *Vertical* and press **ENTER** to toggle to *Horizontal*.
2. Push the cursor key ↑ or ↓ to highlight *coarse*. (menu 5-71)
3. Push the cursor key ← or → to perform a coarse linearity correction of both sides of the image. (image 5-27)
4. Push the cursor key ↑ or ↓ to highlight *right*. (menu 5-72)
5. Push the cursor key ← or → to correct the linearity of the right side of the image. (image 5-28)
6. Push the cursor key ↑ or ↓ to highlight *center*. (menu 5-73)
7. Push the cursor key ← or → to correct the linearity of the center of the image. (image 5-29)
8. Continue with the vertical linearity adjustment.



Menu 5-71

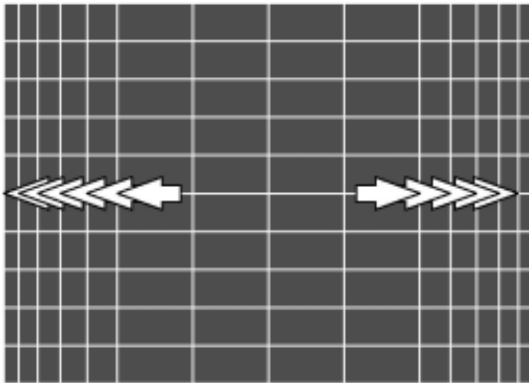


Menu 5-72



Menu 5-73

**Horizontal Linearity
Coarse +**



**Horizontal Linearity
Coarse -**

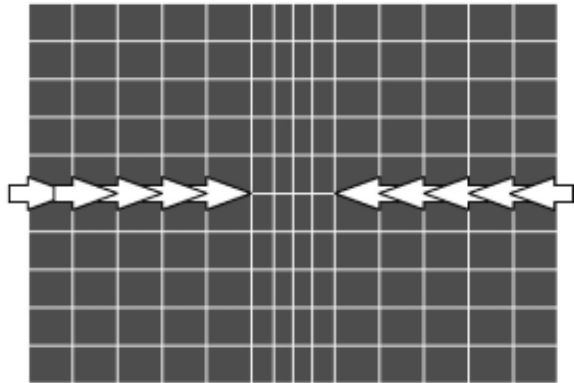
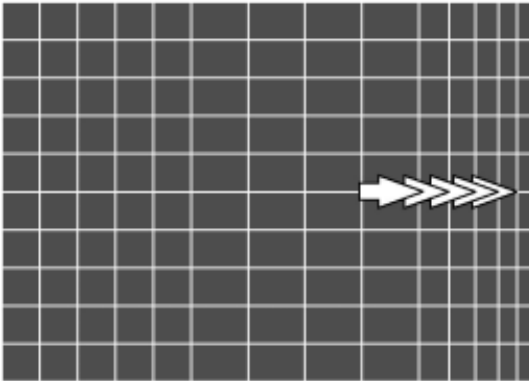


Image 5-27
Horizontal Linearity coarse adjustment

**Horizontal Linearity
Right +**



**Horizontal Linearity
Right -**

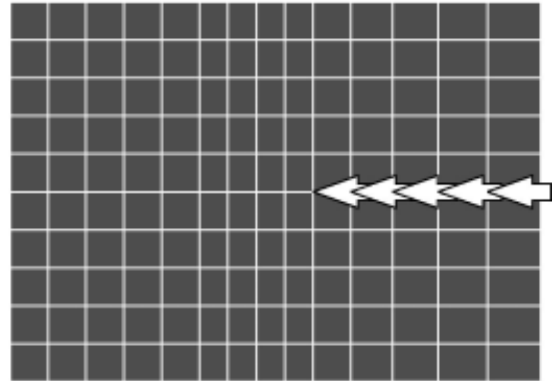
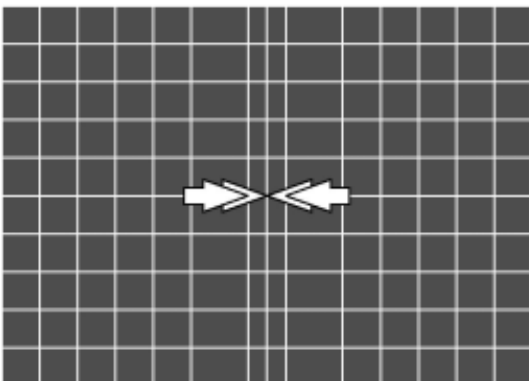


Image 5-28
Horizontal Linearity right adjustment

**Horizontal Linearity
Center +**



**Horizontal Linearity
Center -**

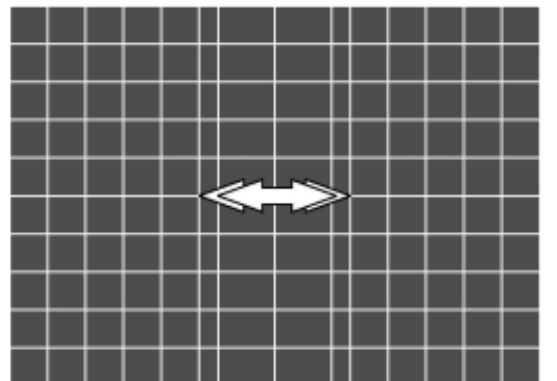


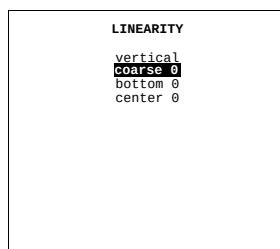
Image 5-29
Horizontal Linearity center adjustment

5.5.7.4.4 Vertical Linearity adjustment

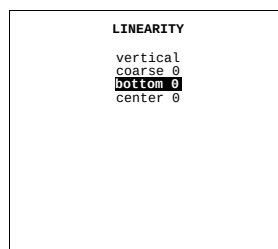
How to adjust the Vertical Linearity ?

A correct Vertical Linearity is achieved when the distances between the horizontal lines of the hatch pattern are equal or almost equal from top to bottom.

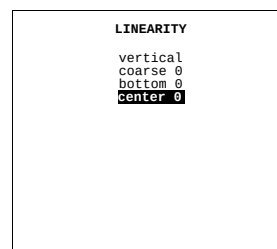
1. Is *Vertical* Linearity selected ?
If yes, go to step 2
If no, Push the cursor key $\uparrow$ or $\downarrow$ to highlight *Horizontal* and press **ENTER** to toggle to *Vertical*.
2. Push the cursor key $\uparrow$ or $\downarrow$ to highlight *coarse*. (menu 5-74)
3. Push the cursor key $\leftarrow$ or $\rightarrow$ to perform a coarse linearity correction of both sides of the image. (image 5-30)
4. Push the cursor key $\uparrow$ or $\downarrow$ to highlight *bottom*. (menu 5-75)
5. Push the cursor key $\leftarrow$ or $\rightarrow$ to correct the linearity of the bottom side of the image. (image 5-31)
6. Push the cursor key $\uparrow$ or $\downarrow$ to highlight *center*. (menu 5-76)
7. Push the cursor key $\leftarrow$ or $\rightarrow$ to correct the linearity of the center of the image. (image 5-32)
8. When finishing the Linearity adjustments, press **EXIT** to return to the *Guided Geometry Map* menu.



Menu 5-74



Menu 5-75



Menu 5-76

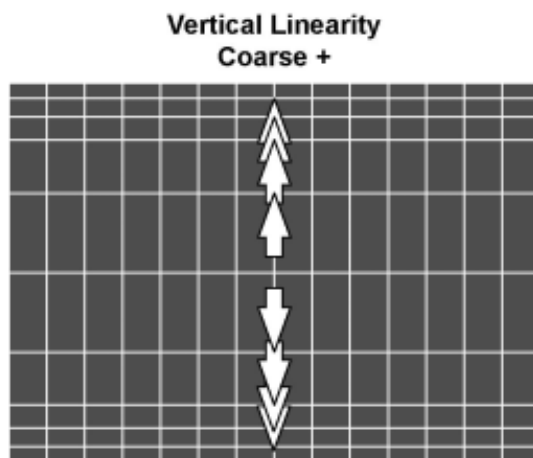
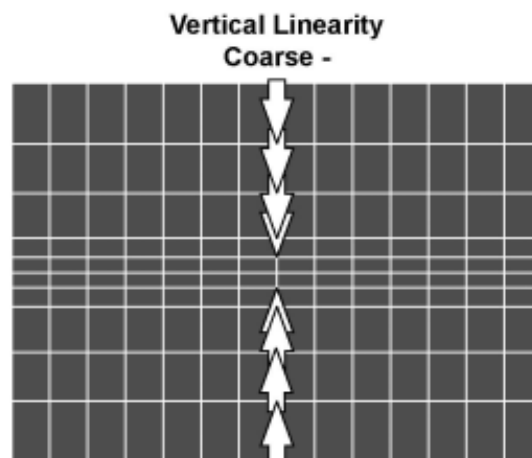


Image 5-30
Vertical Linearity coarse adjustment



**Vertical Linearity
Bottom +**

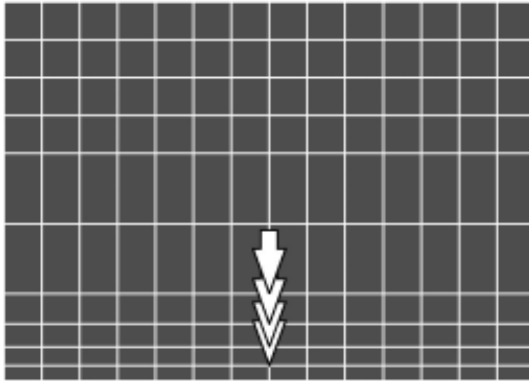
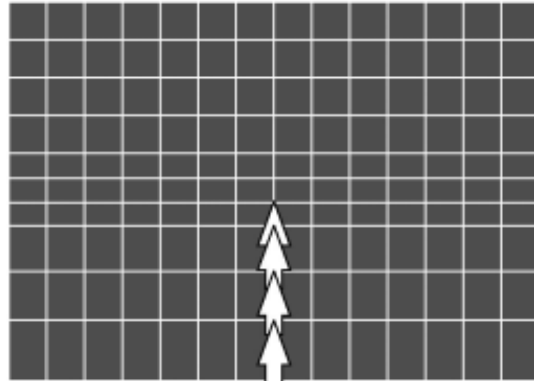


Image 5-31
Vertical Linearity bottom adjustment

**Vertical Linearity
Bottom -**



**Vertical Linearity
Center +**

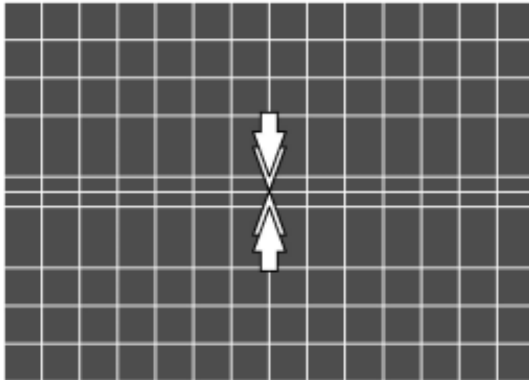
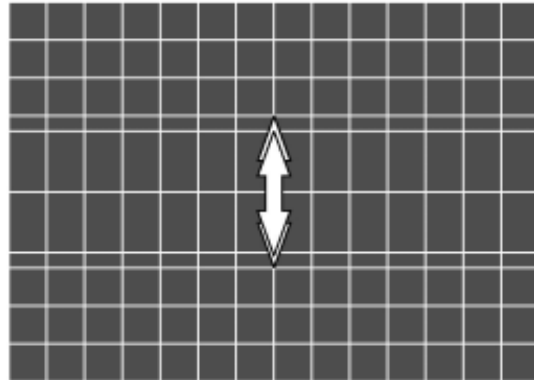


Image 5-32
Vertical Linearity center adjustment

**Vertical Linearity
Center -**



5.5.7.5 Fine

Overview

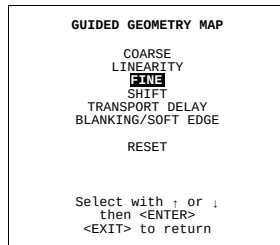
- Start up
- Horizontal or Vertical Linearity selection
- Fine Horizontal or Vertical Linearity adjustment
- Bow Linearity selection
- Bow Linearity adjustment
- Quadrant selection
- Quadrant adjustment
- Local selection
- Local adjustment

5.5.7.5.1 Start up

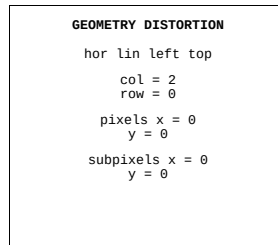
How to Start up the Fine adjustment ?

1. Push the cursor key ↑ or ↓ to highlight *Fine* in the *Edit* menu. (menu 5-77)
2. Press **ENTER** to select.

The *Geometry Distortion* menu will be displayed. (menu 5-78)



Menu 5-77



Menu 5-78

5.5.7.5.2 Horizontal or Vertical Linearity selection

What can be done ?

Within this menu it is possible to fine tune the linearity of the projected image.



The Linearity adjustment is best done when a hatch pattern is projected on the screen.

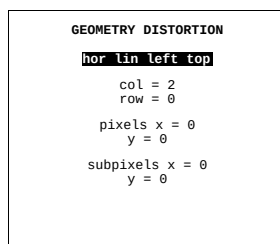


By pressing the * key on the RCU an internal hatch pattern is projected instead of the image data.

How to select the Horizontal or Vertical Linearity ?

1. Push the cursor key ↑ or ↓ to highlight the Fine selection. (menu 5-79)
2. By default *hor lin* is already selected, if not, press **ENTER** to scroll through the available Fine selections until *hor lin* or *ver lin* is displayed.
3. Push the cursor key ← or → to select the desired horizontal or vertical linearity point.

The COL & ROW indicator will show the corresponding position of the selected grid point and an indication box will show the selected grid point on the screen. (image 5-33)



Menu 5-79

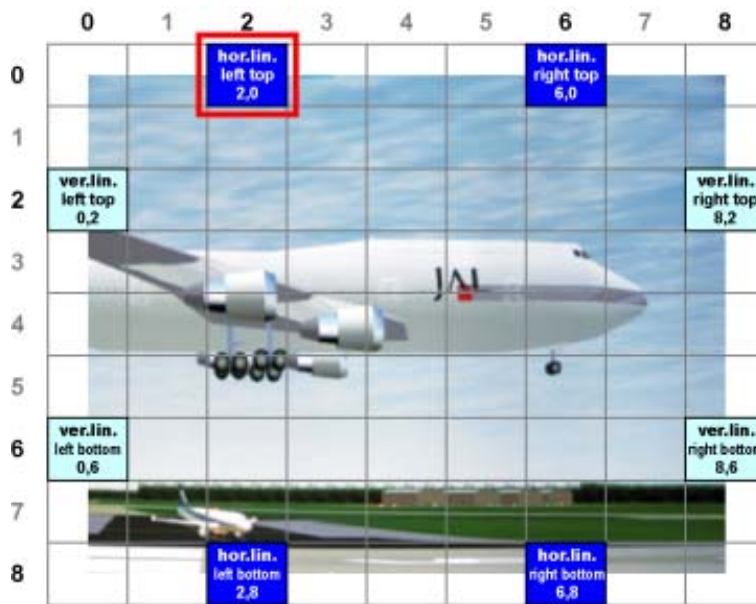


Image 5-33
Fine horizontal or vertical linearity selections

5.5.7.5.3 Fine Horizontal or Vertical Linearity adjustment

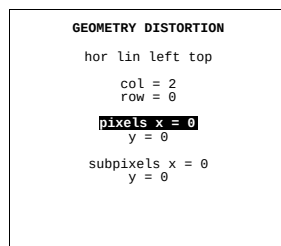
How to adjust the Fine Horizontal or Vertical Linearity ?

We assume *hor lin left top* is selected.

1. Push the cursor key $\uparrow$ or $\downarrow$ to highlight *pixel x = 0*. (menu 5-80)
2. Push the cursor key $\leftarrow$ or $\rightarrow$ to shift the selected grid point in a horizontal way.
3. Repeat step 1 to 2 for the Fine *hor lin left bottom* selection.

This will result in a fine horizontal linearity adjustment (Follow this procedure in a similar way to perform a fine vertical linearity adjustment). (image 5-34)

4. Use the subpixel adjustments to fine shift the selected grid point.
5. Continue with the Fine Bow Linearity adjustment or press **EXIT** to return to the *Guided Geometry Map*.



Menu 5-80

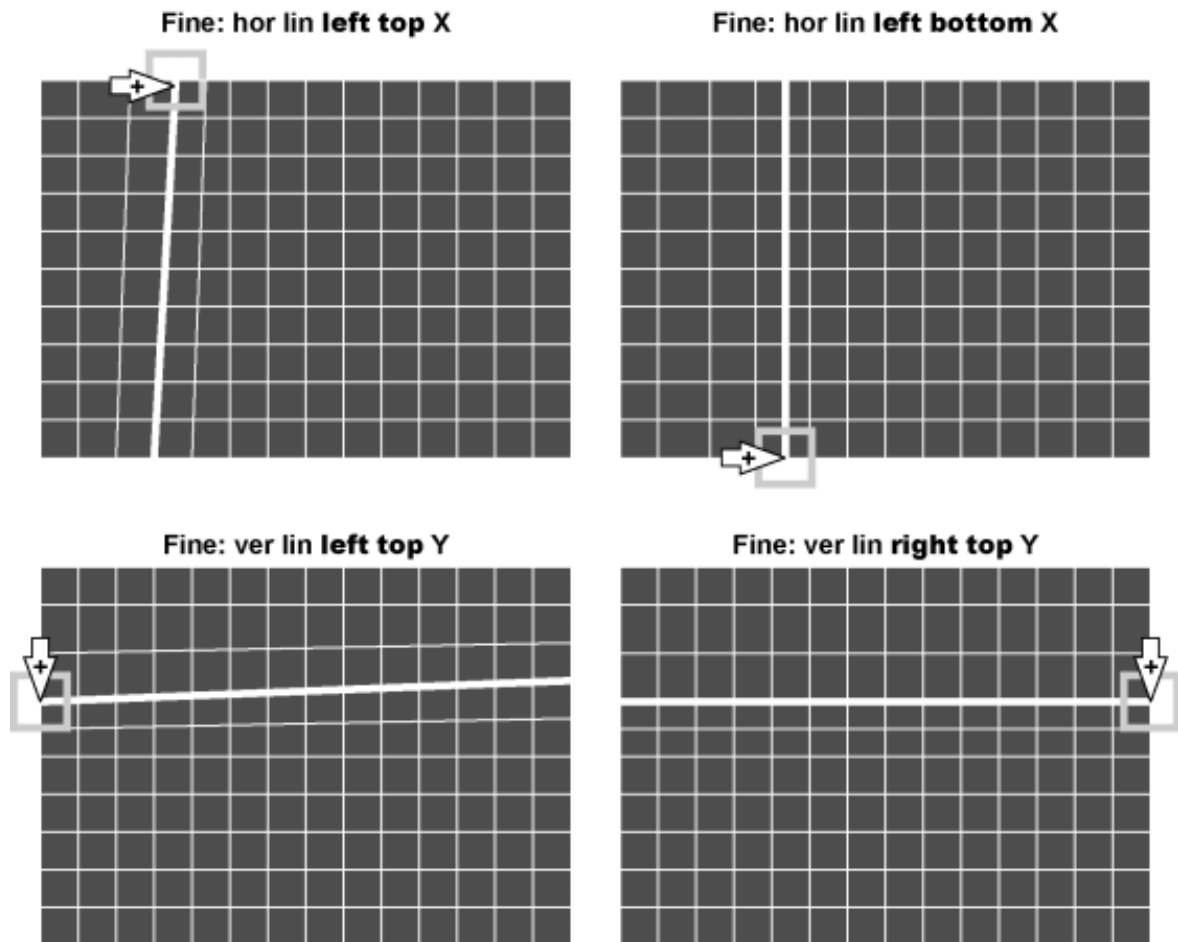


Image 5-34
Fine horizontal or vertical linearity adjustment

5.5.7.5.4 Bow Linearity selection

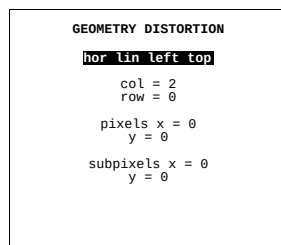
What can be done ?

Within this menu it is possible to perform a fine bow correction on the projected image.

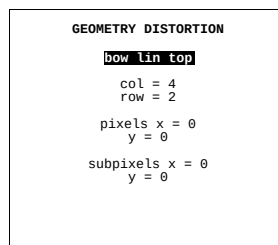
How to select the Bow Linearity ?

1. Push the cursor key $\uparrow$ or $\downarrow$ to highlight the Fine selection. (menu 5-81)
2. Press **ENTER** to scroll through the available Fine selections until *bow lin* is displayed. (menu 5-82)
3. Push the cursor key $\leftarrow$ or $\rightarrow$ to select the desired bow linearity point.

The COL & ROW indicator will show the corresponding position of the selected grid point and an indication box will show the selected grid point on the screen. (image 5-35)



Menu 5-81



Menu 5-82

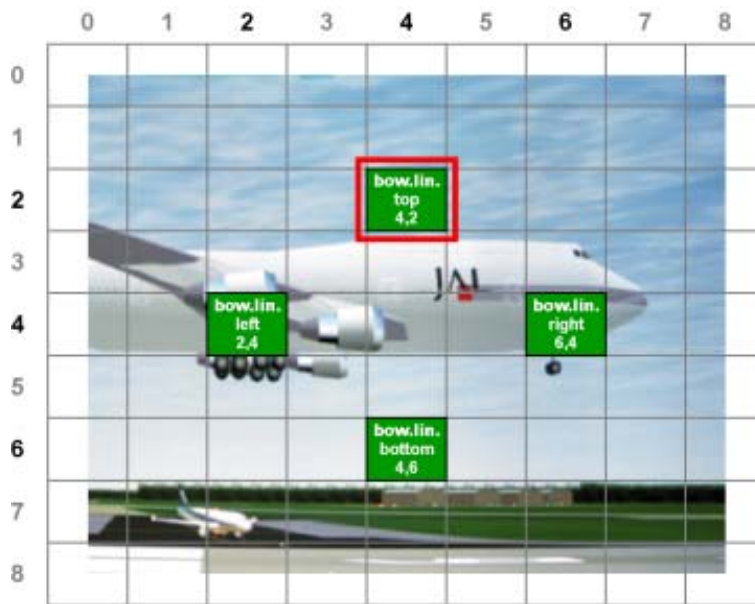


Image 5-35
Fine bow linearity selections

5.5.7.5.5 Bow Linearity adjustment

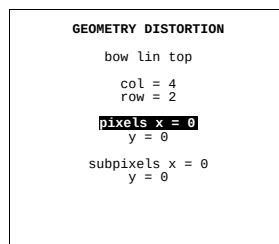
How to adjust the Bow Linearity ?

We assume *bow top* is selected.

1. Push the cursor key $\uparrow$ or $\downarrow$ to highlight *pixel y = 0*. (menu 5-83)
2. Push the cursor key $\leftarrow$ or $\rightarrow$ to shift the selected grid point in a vertical way.

This will result in a fine bow correction on the projected image (Follow this procedure in a similar way to apply a fine bow correction on any desired bow linearity selection). (image 5-36)

3. Use the subpixel adjustments to fine shift the selected grid point.
4. Continue with the Fine Quadrant adjustment or press **EXIT** to return to the *Guided Geometry Map*.



Menu 5-83

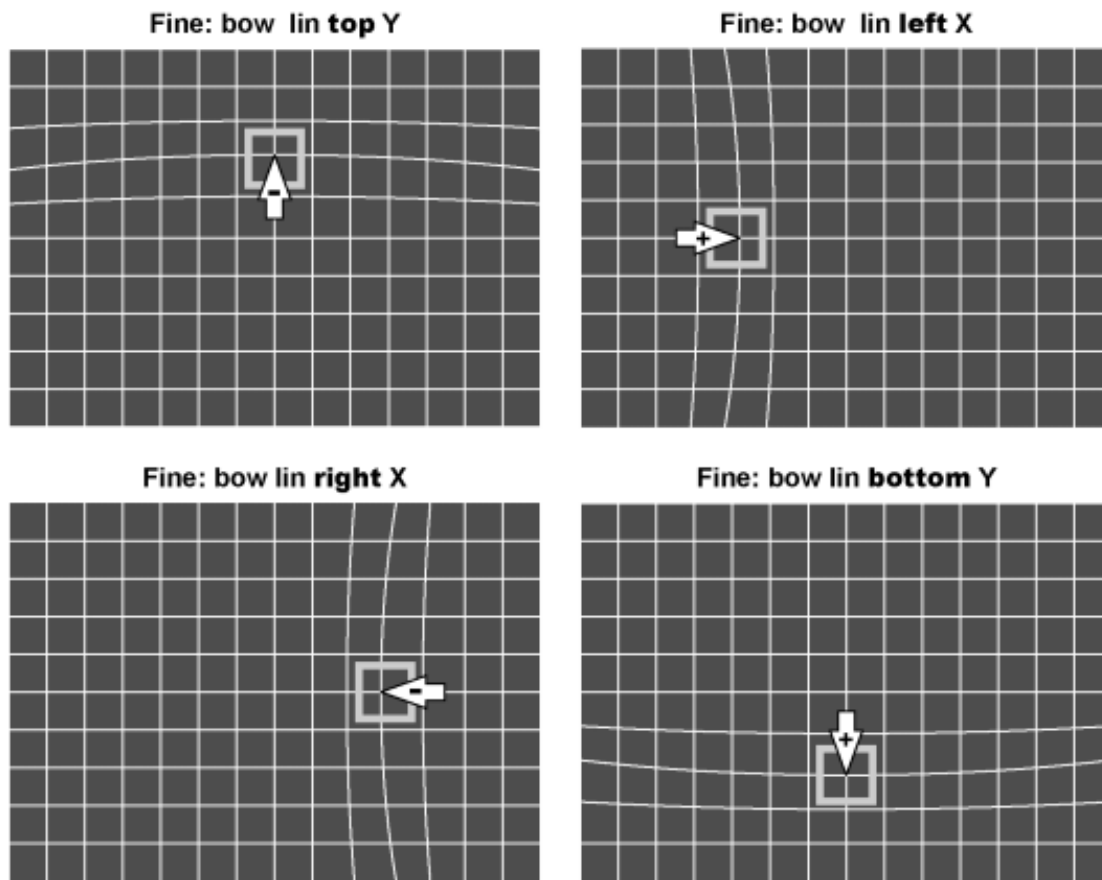


Image 5-36
Fine bow linearity adjustments

5.5.7.5.6 Quadrant selection

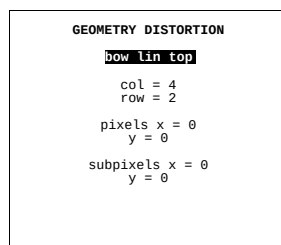
What can be done ?

Within this menu it is possible to perform a fine adjustment within a selected quadrant.

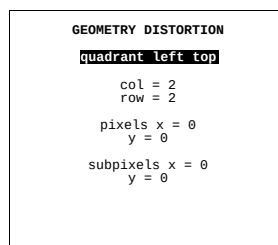
How to select the Quadrants ?

1. Push the cursor key $\uparrow$ or $\downarrow$ to highlight the Fine selection. (menu 5-84)
2. Press **ENTER** to scroll through the available Fine selections until *quadrant* is displayed. (menu 5-85)
3. Push the cursor key $\leftarrow$ or $\rightarrow$ to select the desired quadrant point.

The COL & ROW indicator will show the corresponding position of the selected grid point and an indication box will show the selected grid point on the screen. (image 5-37)



Menu 5-84



Menu 5-85

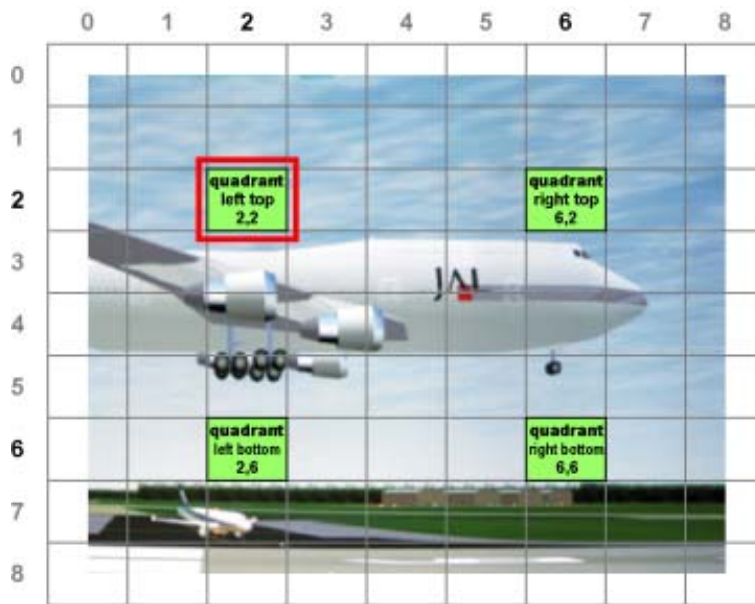


Image 5-37
Fine quadrant selections

5.5.7.5.7 Quadrant adjustment

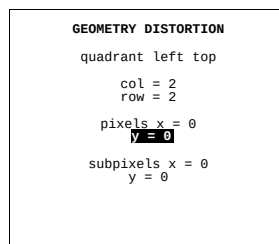
How to adjust Quadrants ?

We assume *quadrant top left* is selected.

1. Push the cursor key $\uparrow$ or $\downarrow$ to highlight *pixel Y = 0*. (menu 5-86)
2. Push the cursor key $\leftarrow$ or $\rightarrow$ to shift the selected grid point in a vertical way.

This will result in a fine adjustment within the selected quadrant (Follow this procedure in a similar way to apply a fine adjustment on any desired quadrant). (image 5-38)

3. Use the subpixel adjustments to fine shift the selected grid point.
4. Continue with the Fine Quadrant adjustment or press **EXIT** to return to the *Guided Geometry Map*.



Menu 5-86

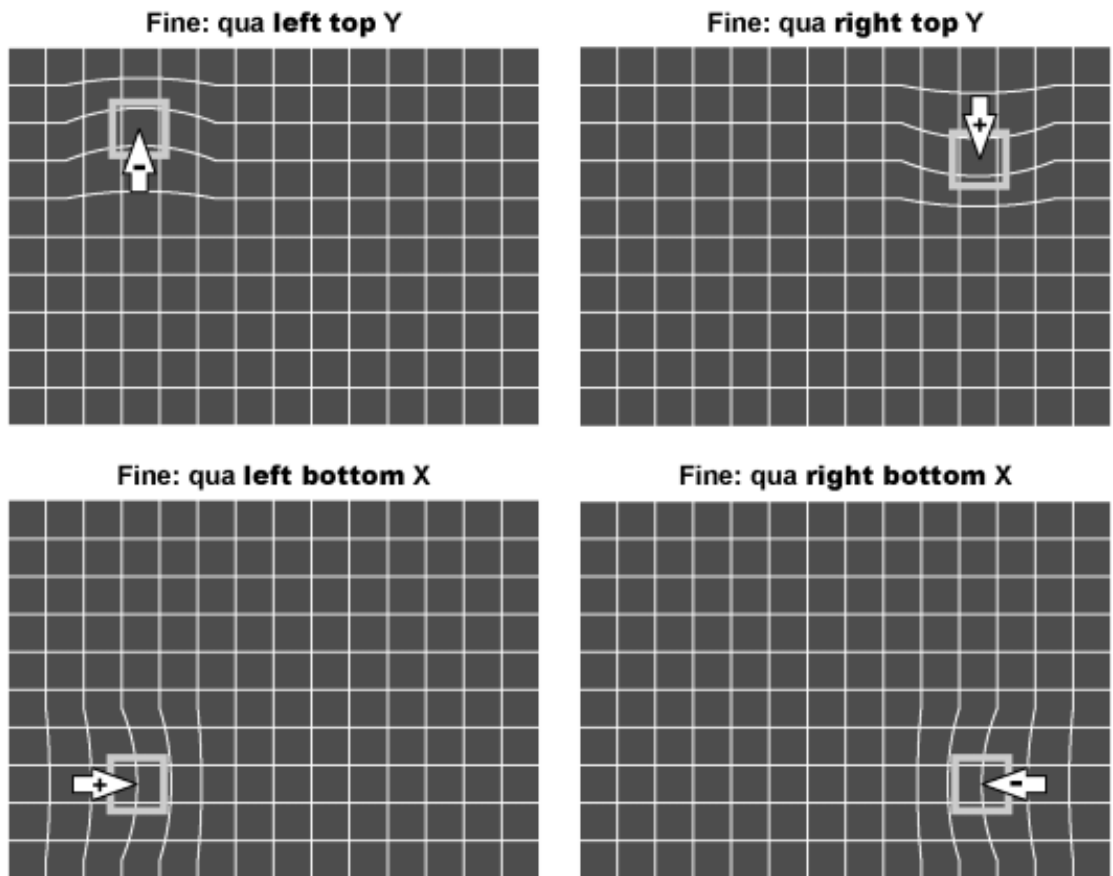


Image 5-38
Fine quadrant adjustments

5.5.7.5.8 Local selection

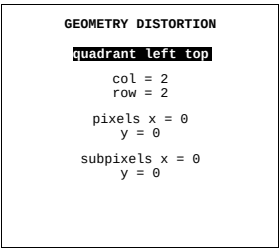
What can be done ?

Within this menu it is possible to smooth away bumps and irregularities within the selected local zone of the projected image.

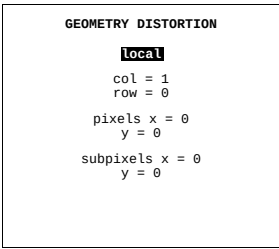
How to select the Local grid points ?

- 1. Push the cursor key ↑ or ↓ to highlight the Fine selection. (menu 5-87)
- 2. Press **ENTER** to scroll through the available Fine selections until *local* is displayed.
See menu 5-88.
- 3. Push the cursor key ↑ or ↓ to select col. (menu 5-89)
- 4. Push the cursor key ← or → to scroll through all available local grid points within this row.

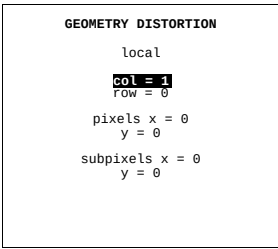
An indication box will show the selected local grid point on the screen (Follow this procedure in a similar way to select any desired local zone). (image 5-39)



Menu 5-87



Menu 5-88



Menu 5-89

	0	1	2	3	4	5	6	7	8
0		local 1,0		local 3,0		local 5,0		local 7,0	
1	local 0,1	local 1,1	local 2,1	local 3,1	local 4,1	local 5,1	local 6,1	local 7,1	local 8,1
2		local 1,2		local 3,2		local 5,2		local 7,2	
3	local 0,3	local 1,3	local 2,3	local 3,3	local 4,3	local 5,3	local 6,3	local 7,3	local 8,3
4		local 1,4		local 3,4		local 5,4		local 7,4	
5	local 0,5	local 1,5	local 2,5	local 3,5	local 4,5	local 5,5	local 6,5	local 7,5	local 8,5
6		local 1,6		local 3,6		local 5,6		local 7,6	
7	local 0,7	local 1,7	local 2,7	local 3,7	local 4,7	local 5,7	local 6,7	local 7,7	local 8,7
8		local 1,8		local 3,8		local 5,8		local 7,8	

Image 5-39
Fine local grid point selections

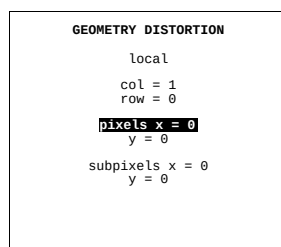
5.5.7.5.9 Local adjustment

How to adjust the Local grid points ?

1. Push the cursor key $\uparrow$ or $\downarrow$ to select *pixel* $x = 0$ in the *Geometry Distortion* menu. (menu 5-90)
2. Push the cursor key $\leftarrow$ or $\rightarrow$ to coarse shift the selected grid point in a horizontal way.

This will result in a fine adjustment within the selected local zone (Follow this procedure in a similar way to apply a fine adjustment on any desired local zone). (image 5-40)

3. Use the subpixel adjustments to fine shift the selected grid point.
4. When finishing the Local grid point adjustment press **EXIT** to return to the *Guided Geometry Map*.
5. Press **EXIT** to return to the *Edit* menu.



Menu 5-90

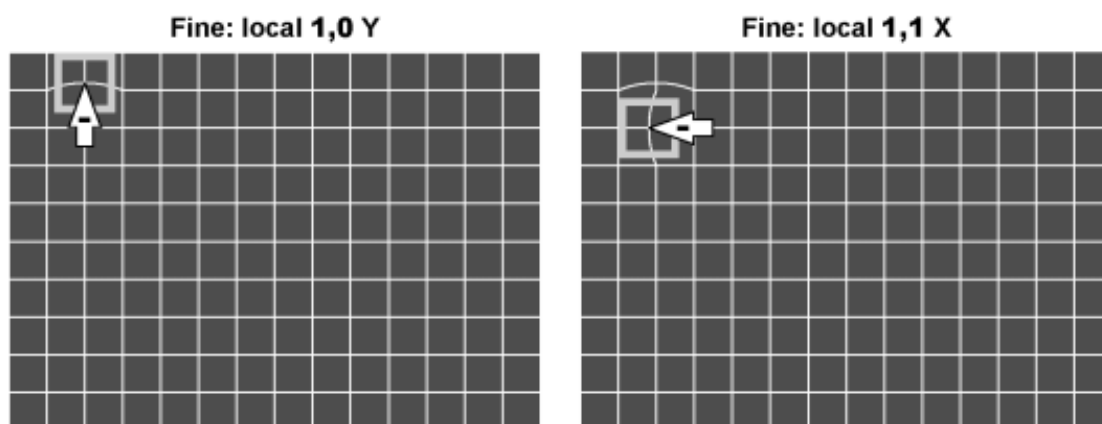


Image 5-40
Fine local adjustments

5.5.7.6 Shift

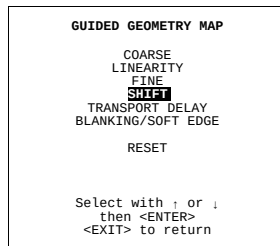
What can be done with the Shift adjustment ?

With Shift adjustment it is possible to shift the whole image.

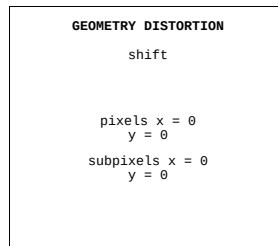
How to Start up Shift adjustment ?

1. Push the cursor key $\uparrow$ or $\downarrow$ to highlight *Shift* in the *Edit* menu. (menu 5-91)
2. Press **ENTER** to select.

The *Geometry Distortion* menu will be displayed. (menu 5-92)



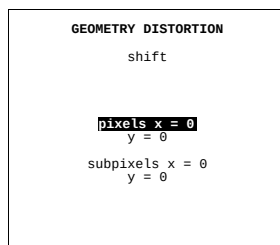
Menu 5-91



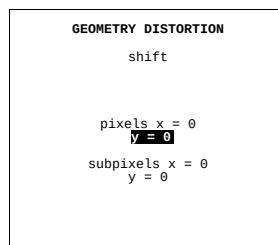
Menu 5-92

How to use the Shift adjustment ?

1. Push the cursor key $\uparrow$ or $\downarrow$ to select *Pixel x = 0* in the *Geometry Distortion* menu. (menu 5-93)
2. Push the cursor key $\leftarrow$ or $\rightarrow$ to shift the whole image in a horizontal way.
3. Push the cursor key $\uparrow$ or $\downarrow$ to *Pixel y = 0* in the *Geometry Distortion* menu. (menu 5-94)
4. Push the cursor key $\leftarrow$ or $\rightarrow$ to shift the whole image in a vertical way.
5. Use the subpixel selections to fine shift the whole image.
6. Press **EXIT** to return to the *Guided Geometry Map* menu.



Menu 5-93



Menu 5-94

5.5.7.7 Transport Delay

What can be done with the Transport Delay

The first image data the projector receives from the Image Generator is the start of the first active line. However when a top side bow pre-distortion is used, the first image data the projector needs is the image information that is halfway that first active line, to gather all this information before projecting it on the screen, an adjustable Transport Delay is applied on the received image data.

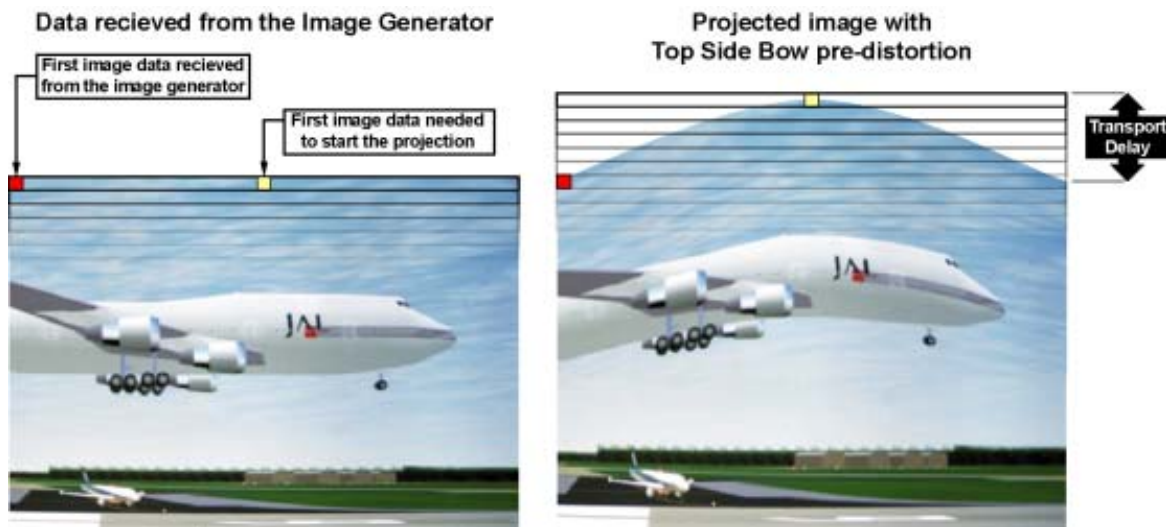
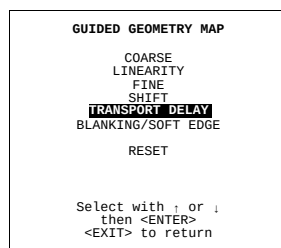


Image 5-41
Transport Delay basic principle

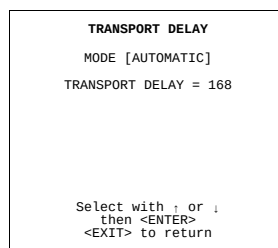
How to Start up the Transport Delay ?

1. Push the cursor key ↑ or ↓ to highlight *Transport Delay* in the *Edit* menu. (menu 5-95)
2. Press **ENTER** to select.

The *Transport Delay* menu will be displayed. (menu 5-96)



Menu 5-95



Menu 5-96



In a set up with 1 projector skip the following adjustment procedure and always leave the Transport Delay in the default automatic mode.

How to adjust the Transport Delay ?

The following procedure is described for a system with 3 projectors, apply the same guidelines for a multi-projector set up.

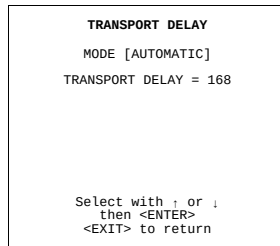
1. Make sure the 3 projectors are set to the default [AUTOMATIC] Transport Delay mode. (menu 5-97)

Each projector will automatically correct the Transport Delay to a certain value, e.g.:

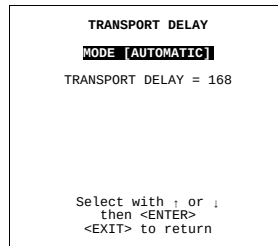
Projector #	Automatic Transport Delay
Projector 1	200
Projector 2	250
Projector 3	190

2. Leave the projector with the maximum value on [AUTOMATIC], in this case projector 2 with an Automatic Transport Delay of 250.
3. On Projector 1, push the cursor key to highlight *Mode* in the *Transport Delay* menu. (menu 5-98)
4. Press **ENTER** to toggle from [AUTOMATIC] to [MANUAL]. (menu 5-99)
5. Push the cursor key ↑ or ↓ to highlight *Transport Delay*. (menu 5-100)
6. Push the → cursor key to set the Transport Delay to the maximum value in the set up, in this case set the Transport Delay manually to 250.

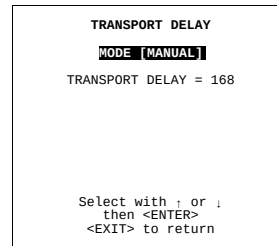
7. Repeat step 3 to 6 for projector 3.
8. Press **EXIT** to return to the *Guided Geometry Map* menu.



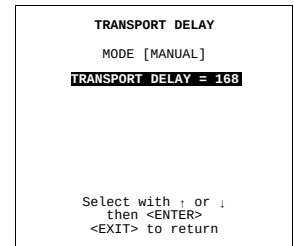
Menu 5-97



Menu 5-98



Menu 5-99



Menu 5-100

5.5.7.8 Blanking

Overview

- Blanking Start up
- Blanking Active On
- Blanking Shape Start up
- Blanking Shape selections
- Blanking adjustment

5.5.7.8.1 Blanking Start up

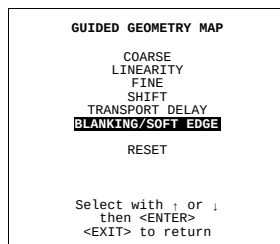
What can be done with Blanking ?

Blanking adjustments affect only the edges of the projected image and are used to frame the projected image on the screen and to hide unwanted image information (or noise).

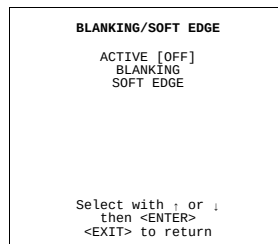
How to Start up Blanking ?

1. Push the cursor key $\uparrow$ or $\downarrow$ to highlight *Blanking/Soft Edge* within the *Guided Geometry map* menu. (menu 5-101)
2. Press **ENTER** to select.

The *Blanking/Soft Edge* menu will be displayed. (menu 5-102)



Menu 5-101



Menu 5-102

5.5.7.8.2 Blanking Active On

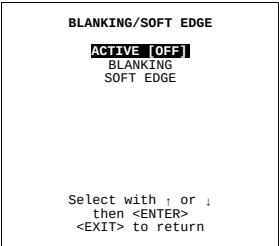
How to switch Blanking Active On ?

- 1. Push the cursor key ↑ or ↓ to highlight *Active* in the *Blanking/Soft Edge* menu. (menu 5-103)
- 2. Press **ENTER** to switch *Active* [OFF] to [ON].

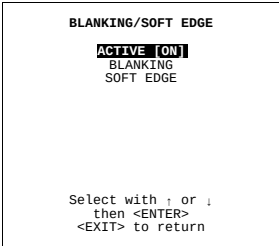
See menu 5-104.

In the default setting *Active* is set to [OFF].

[OFF]	Blanking is disabled.
[ON]	Blanking is enabled.



Menu 5-103



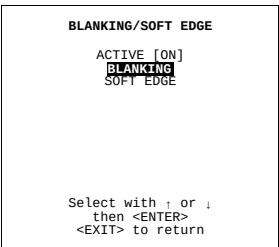
Menu 5-104

5.5.7.8.3 Blanking Shape Start up

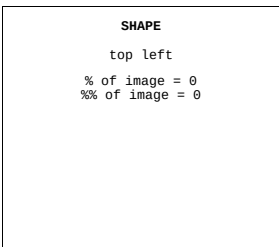
How to Start Up the Blanking Shape menu ?

- 1. Push the cursor key ↑ or ↓ to highlight *Blanking* in the *Blanking/Soft Edge* menu. (menu 5-105)
- 2. Press **ENTER** to select.

The *Shape* menu will be displayed. (menu 5-106)



Menu 5-105

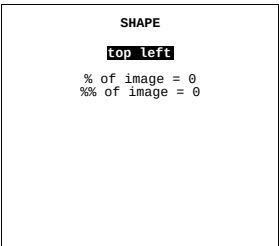


Menu 5-106

5.5.7.8.4 Blanking Shape selections

How to use the Blanking Shape selection ?

- 1. Push the cursor key ↑ or ↓ to highlight the first item in the *Shape* menu. (menu 5-107)
- 2. Press **ENTER** to scroll through the available coarse shape selections: top, bottom, left and right. (image 5-42)
- 3. Push the cursor key ← or → to scroll through the available fine shape selections. image 5-42



Menu 5-107

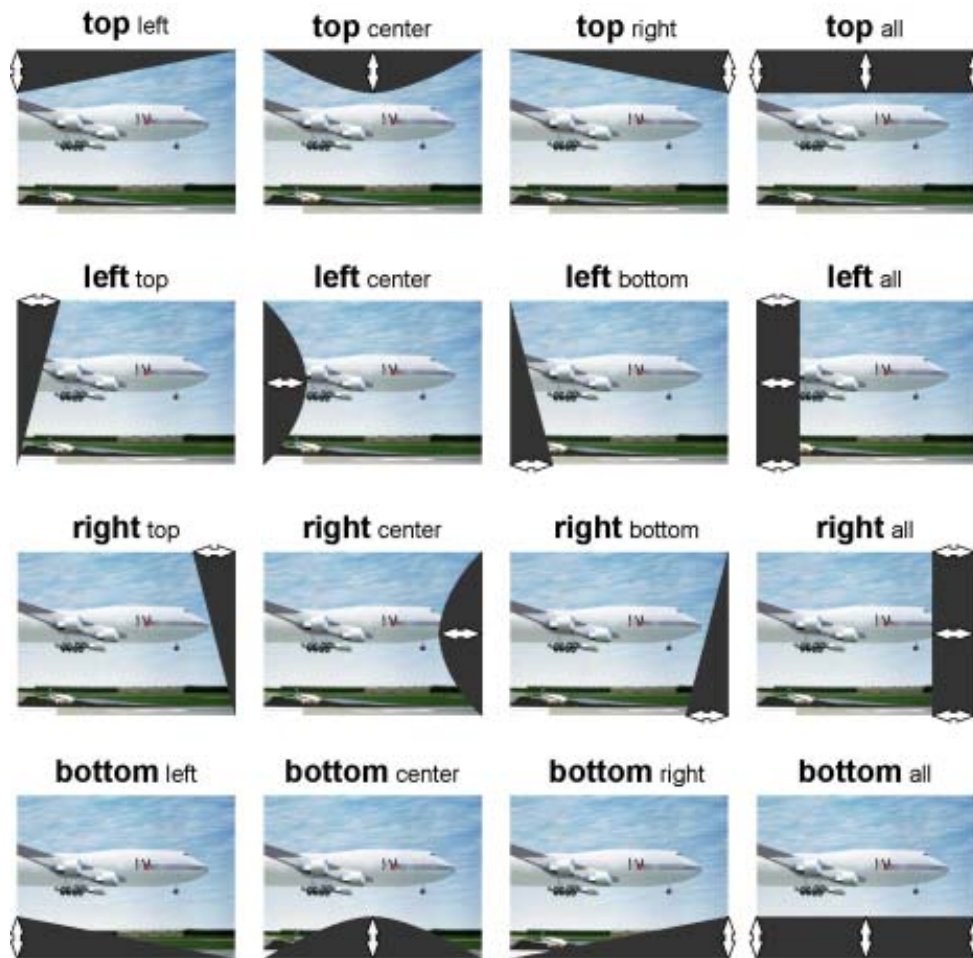


Image 5-42
Shape selections

5.5.7.8.5 Blanking adjustment

What is % of image and %% of image adjustment ?

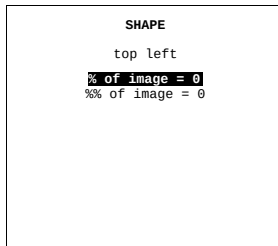
% of image	Coarse adjustment, this will shift the blending zone in steps of 1/100 of the total image shape.
%% of image	Fine adjustment, this will shift the blending zone in steps of 1/10000 of the total image shape.

How to adjust the Blanking Shape ?

We assume *top left* is selected.

1. Push the cursor key $\uparrow$ or $\downarrow$ to select % of image. (menu 5-108)
2. Push the cursor key $\leftarrow$ or $\rightarrow$ to black out the left top side of the image (Follow this procedure in a similar way to apply a desired blanking adjustment) image 5-42.
3. Use the %% of image adjustments to fine shift the selected grid point.
4. When finished press **EXIT** to return to the *Blanking/Soft Edge* menu.

5. Press **EXIT** to return to the *Guided Geometry Map* menu.
6. Press **EXIT** to return to the *Edit* menu.



Menu 5-108

5.5.7.9 Electronic Soft Edge (Optional)



Whenever Soft Edge is mentioned in this chapter this always refer to **Electronic Soft Edge**.



The Electronic Soft Edge is only available as an option.

Overview

- Introduction
- Preparations
- Soft Edge Start up
- Soft Edge Active On
- Soft Edge Shape Start up
- Soft Edge Shape selections
- Basic Soft Edge Shape Set up
- Soft Edge Width Start up
- Soft Edge Width selections
- Basic Soft Edge Width Set up

5.5.7.9.1 Introduction

When available ?

The Electronic Soft Edge is only available as an option, some menu items will be grayed out when this option is not installed, the shape menu can always be used to blank out unwanted image information.

Why Soft Edge ?

When working in a multichannel setup the WARP 6™ and its extensive Soft Edge possibilities enable an image blending that gives the appearance of a single view, thus achieving realistic immersion for the majority of simulation and virtual reality applications.

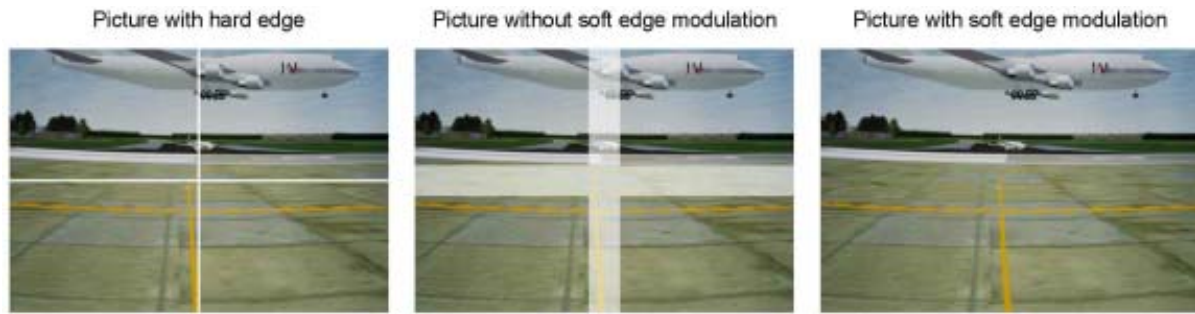


Image 5-43
WhySoft Edge ?

What is the Basic Principal of Soft Edge ?

The principle of edge blending is achieved by linear modulation of the light output in the overlap zone so that the light output in that zone equals the light output of the rest of the image.

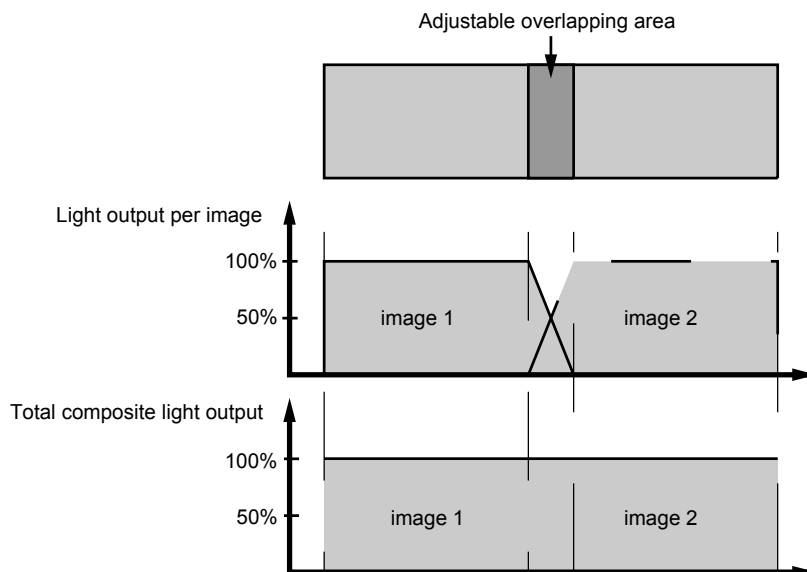


Image 5-44
Soft Edge Basic Principle

5.5.7.9.2 Preparations

Soft Edge Preparations

To ensure proper soft edge adjustment, be sure that the following adjustments are done perfectly on all projectors:

- Convergence (Electronic Convergence).
- Geometry
- Color Matching (Color Temperature, Input Balance, Gamma)



When projecting on a cylindrical screen, the adjustments mentioned above can be done by using the projector adjustments in combination with Polaris.

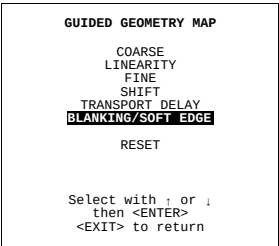
Polaris is a Test Pattern Generator software that can generate a user-defined test pattern that is used to align projection systems. It also has the ability to generate predefined patterns for standardized projection systems. The software is developed to run on IRIX (Order numbers for Polaris: R9898300 for a 6 months license, R9893301 for a full license).

5.5.7.9.3 Soft Edge Start up

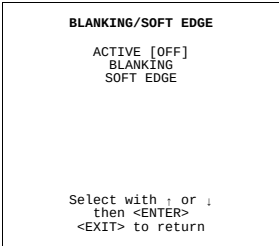
How to Start up Soft Edge ?

- 1. Push the cursor key ↑ or ↓ to highlight *Blanking/Soft Edge* menu. (menu 5-109)
- 2. Press **ENTER** to select.

The *Blanking/Soft Edge* menu will be displayed. (menu 5-110)



Menu 5-109



Menu 5-110

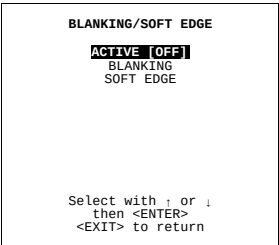
5.5.7.9.4 Soft Edge Active On

How to switch Soft Edge Active On ?

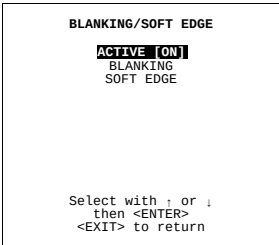
- 1. Push the cursor key ↑ or ↓ to highlight *Active* in the *Blanking/Soft Edge* menu. (menu 5-111)
- 2. Press **ENTER** to switch Soft Edge *Active* [OFF] to [ON]. (menu 5-112)

In the default setting Active is set to [OFF].

[OFF]	Soft Edge is disabled
[ON]	Soft Edge is enabled



Menu 5-111



Menu 5-112

5.5.7.9.5 Soft Edge Shape Start up

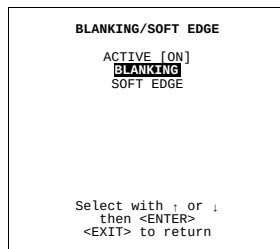
What can be done with the Soft Edge Shape menu ?

Before creating a soft edge, an overlap zone is created, the shape of this overlap zone is fully adjustable, within this menu the shape of the blending zone is aligned with the shape of the overlap zone.

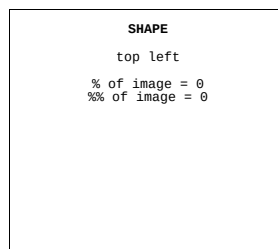
How to Start Up the Soft Edge Shape menu ?

1. Push the cursor key ↑ or ↓ to highlight *Shape* in the *Blanking/Soft Edge* menu. (menu 5-113)
2. Press **ENTER** to select.

The *Shape* menu will be displayed. (menu 5-114)



Menu 5-113

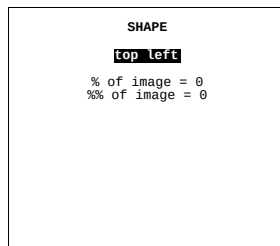


Menu 5-114

5.5.7.9.6 Soft Edge Shape selections

How the use the Soft Edge Shape selection ?

1. Push the cursor key ↑ or ↓ to highlight the first item in the *Shape* menu. (menu 5-115)
2. Press **ENTER** to scroll through the available coarse shape selections: top, bottom, left and right. (image 5-45)
3. Push the cursor key ← or → to scroll through the available fine shape selections. image 5-45



Menu 5-115

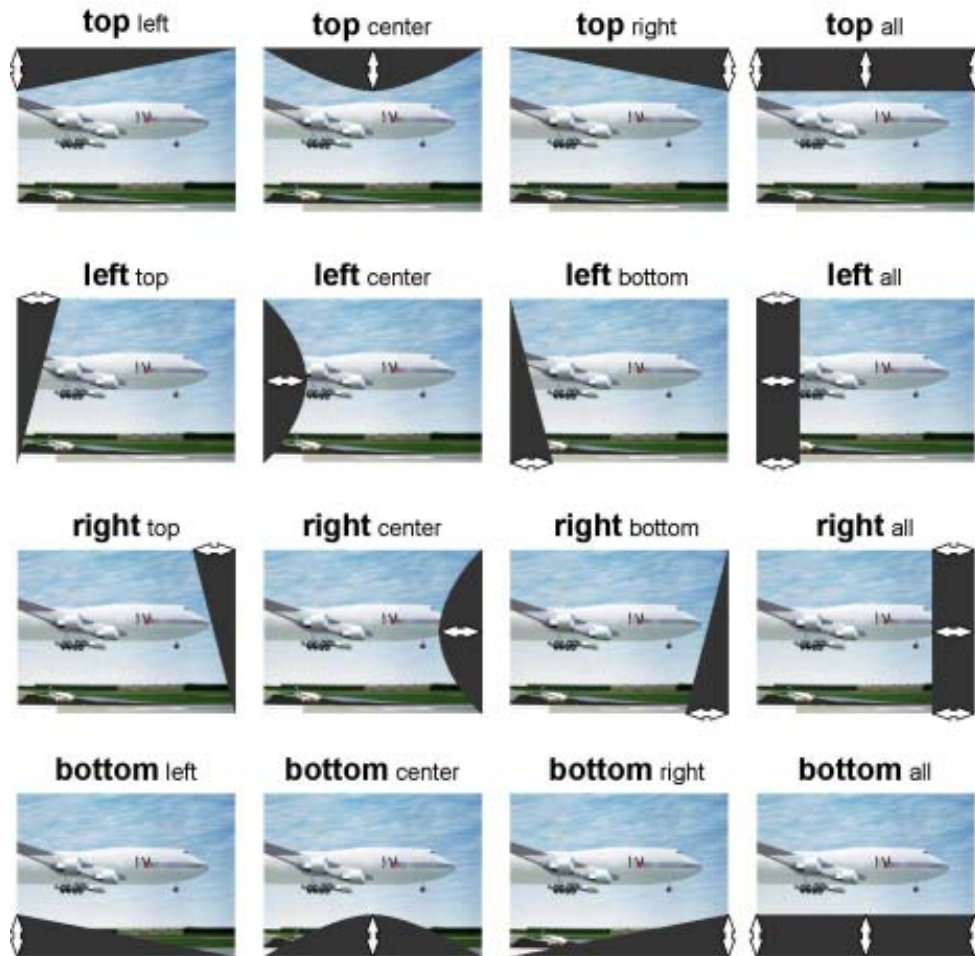


Image 5-45
Shape selections

5.5.7.9.7 Basic Soft Edge Shape Set up



The following procedures will adjust the Shape of a basic Electronic Soft Edge set up with 2 projectors and a 12.5 % overlap zone, apply the same procedures for every Electronic Soft Edge you want to create in a multi-projector system.

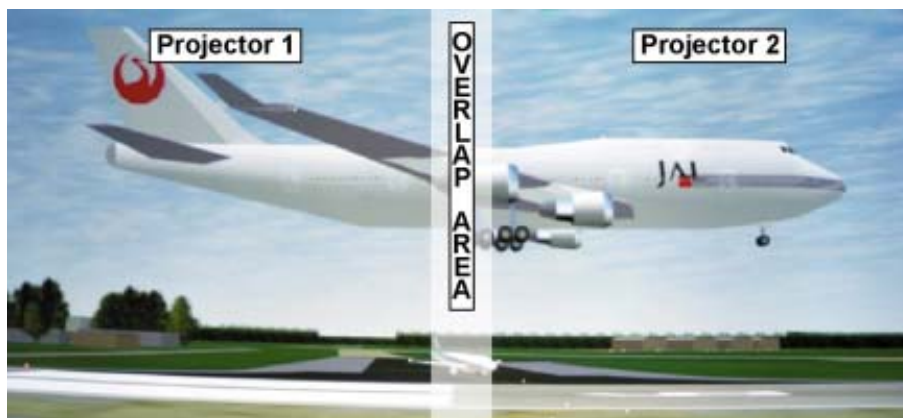


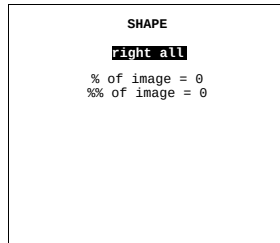
Image 5-46
Basic Electronic Soft Edge set up



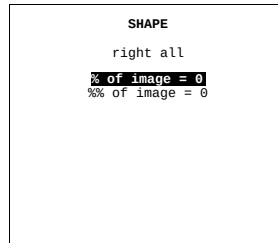
Be sure the Soft Edge Active mode is set to [ON] for both projectors.

Setting up the Shape for Projector 1

1. Use the combination of **ENTER** and the cursor key ← or → to select *right all*. (menu 5-116)
2. Push the cursor key ↑ or ↓ to select % of image. (menu 5-117)
3. Push the cursor key ← or → to coincide the right side of the image of Projector 1 with the center of the overlap area. (image 5-47)
4. Use the subpixel selections for fine adjustments.



Menu 5-116



Menu 5-117

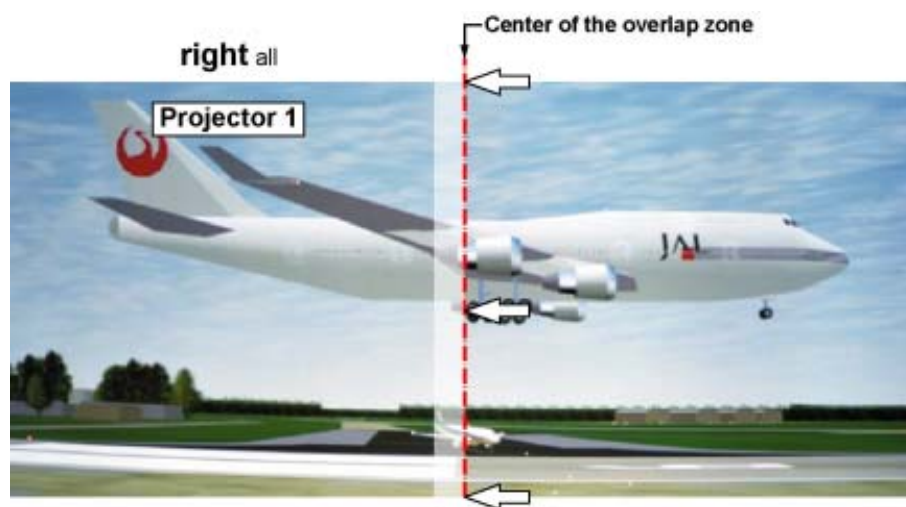
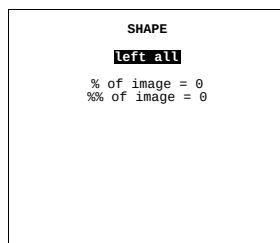


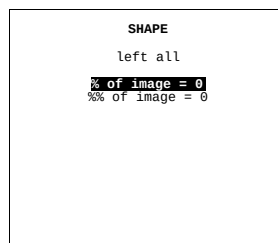
Image 5-47
Basic Shape set up for Projector 1

Setting up the Shape for Projector 2

1. Use the combination of **ENTER** and the cursor key ← or → to select *left all*. (menu 5-118)
2. Push the cursor key ↑ or ↓ to select % of image. (menu 5-119)
3. Push the cursor key ← or → to coincide the left side of the image of Projector 2 with the center of the overlap area. (image 5-48)
4. Use the subpixel selections for fine adjustments.



Menu 5-118



Menu 5-119

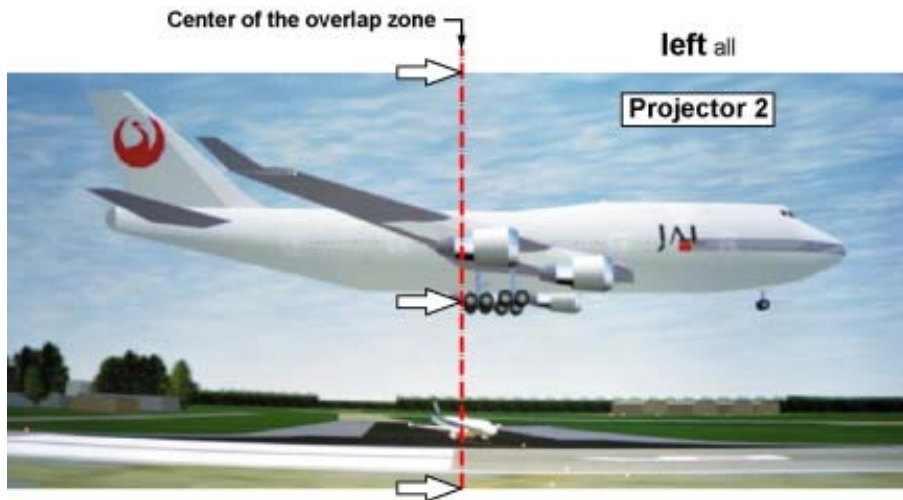


Image 5-48
Basic Shape set up for Projector 2

5.5.7.9.8 Soft Edge Width Start up



When Soft Edge is not installed on the projector or when the Soft Edge Active mode is set to [OFF] this menu item will be grayed out.

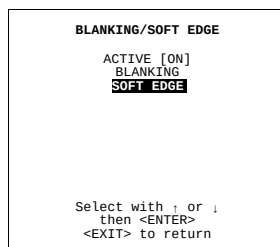
What can be done with the Soft Edge Width menu ?

Within this menu the width of the blending zone is set up.

How to Start up the Soft Edge Width menu ?

1. Push the cursor key $\uparrow$ or $\downarrow$ to highlight *Soft Edge*. (menu 5-120)
2. Press **ENTER** to select.

The *Soft Edge Width* barscale, displaying the width in % (Range from 00.0 to 25.5 %), will be displayed. (image 5-49)



Menu 5-120

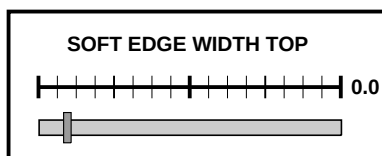


Image 5-49
The Soft Edge Width barscale

5.5.7.9.9 Soft Edge Width selections

How to use the Soft Edge Width selection ?

1. Press **ENTER** to scroll through all available Soft Edge Width selections: top, bottom, left and right. (image 5-50)

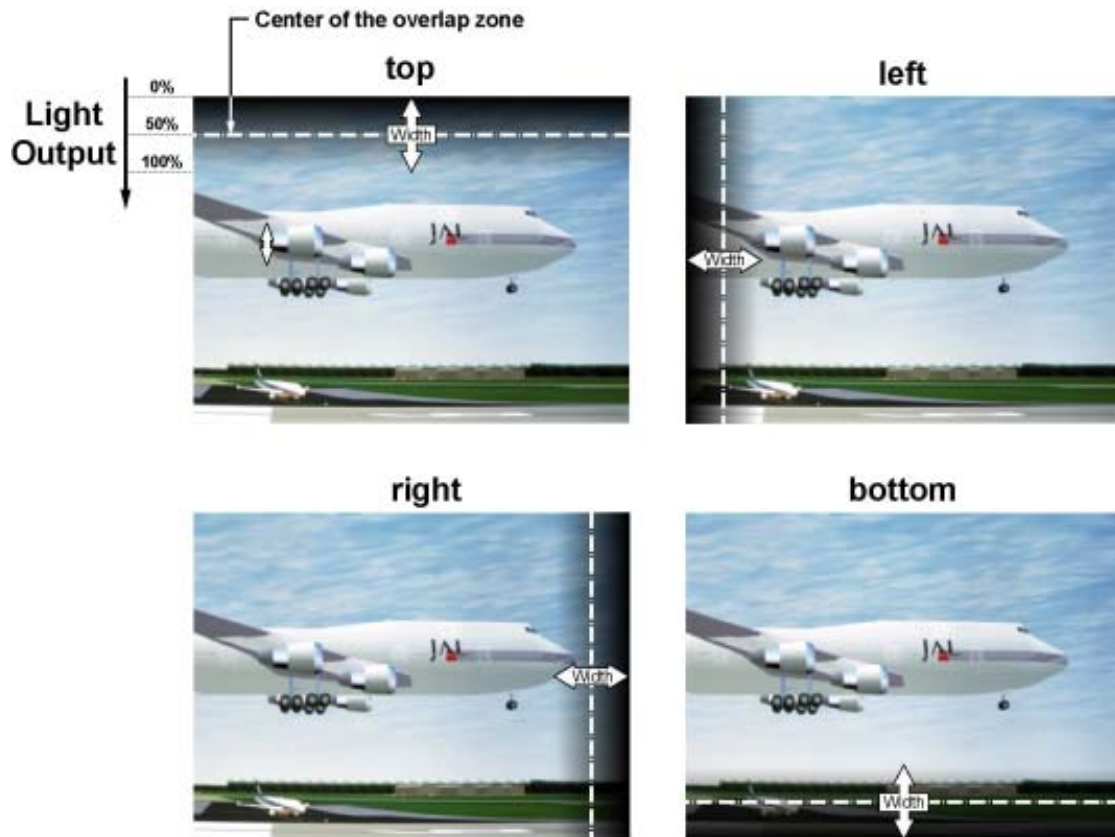


Image 5-50
Soft Edge Width selections

5.5.7.9.10 Basic Soft Edge Width Set up

Setting up the Width for Projector 1 ?

1. Press **ENTER** until *Right* is selected. (image 5-51)
2. Push the cursor key ← or → to adjust the *right width* until it matches or exceeds the width of the overlap zone. (image 5-52)
3. Press **EXIT** to return to the *Blanking/Soft Edge* menu.
4. Press **EXIT** to return to the *Guided Geometry Map* menu.
5. Press **EXIT** to return to the *Edit* menu.

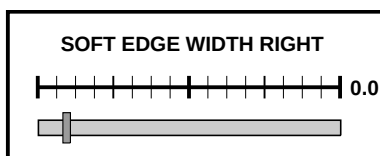


Image 5-51

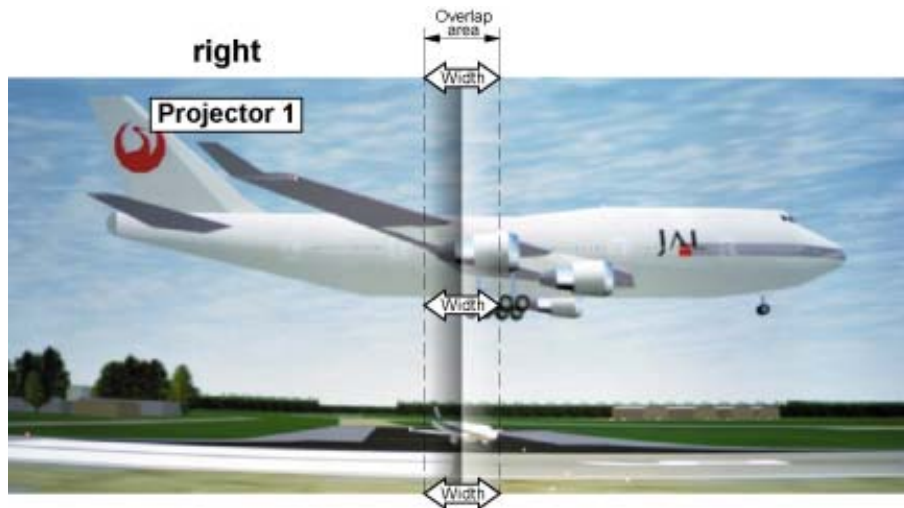


Image 5-52
Basic Width set up for Projector 1

Setting up the Width for Projector 2 ?

1. Press **ENTER** until *Left* is selected. (image 5-53)
2. Push the cursor key ← or → to adjust the *left width* until it matches the right width of projector 1. (image 5-54)
3. Press **EXIT** to return to the *Blanking/Soft Edge* menu.
4. Press **EXIT** to return to the *Guided Geometry Map* menu.
5. Press **EXIT** to return to the *Edit* menu.

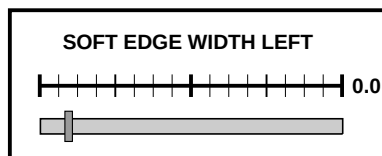


Image 5-53

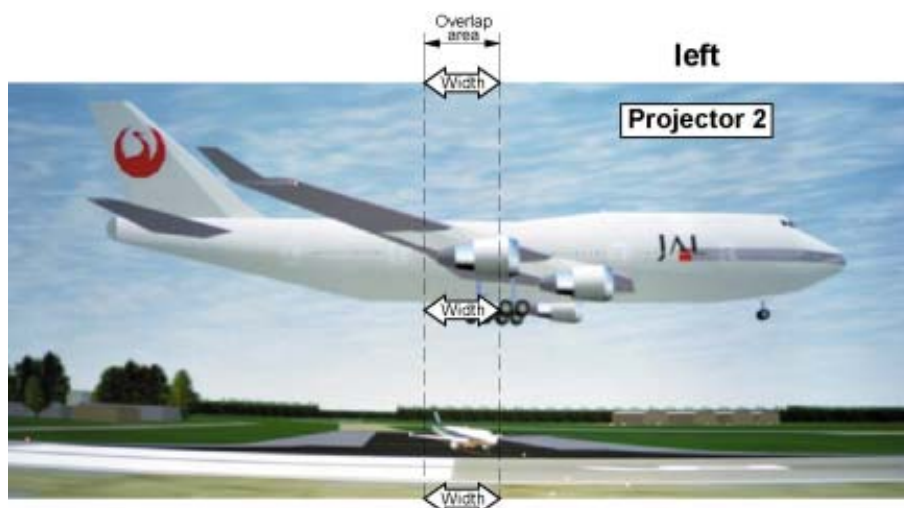


Image 5-54
Basic Width set up for Projector 2

5.5.7.10 Reset

Overview

- Start up
- Coarse Reset
- Linearity Reset
- Reset Fine
- Reset Blanking/Soft Edge
- Reset All

What can be done with Reset ?

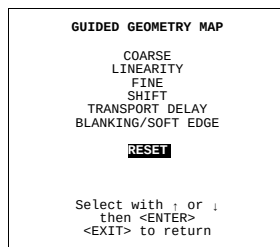
With the Reset menu item, a selection, or all Geometry and Soft Edge adjustment values, can be reset to their default values.

5.5.7.10.1 Start up

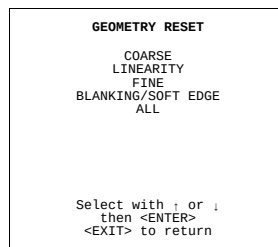
How to Start up Reset ?

1. Push the cursor key ↑ or ↓ to highlight *Reset* in the *Edit* menu. (menu 5-121)
2. Press **ENTER** to select.

The *Geometry Reset* menu will be displayed. (menu 5-122)



Menu 5-121



Menu 5-122

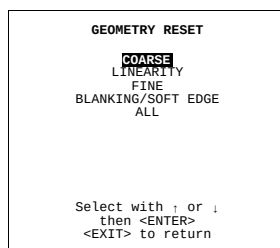
5.5.7.10.2 Coarse Reset

How to reset the Coarse adjustments ?

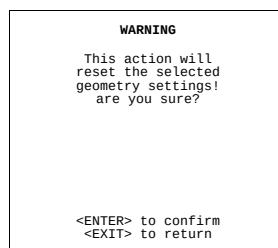
1. Push the cursor key ↑ or ↓ to highlight *Coarse* within the *Geometry Reset* menu. (menu 5-123)
2. Press **ENTER** to select.

A warning will be displayed . (menu 5-124)

3. Press **ENTER** to reset the Coarse adjustments
Or,
Press **EXIT** to return to the Geometry Reset menu.



Menu 5-123

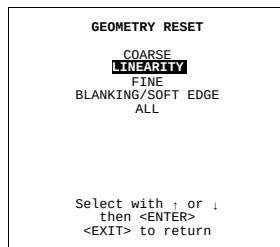


Menu 5-124

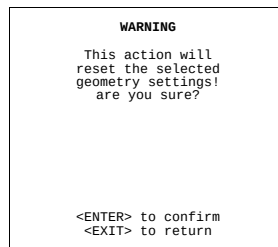
5.5.7.10.3 Linearity Reset

How to reset the Linearity adjustments ?

1. Push the cursor key ↑ or ↓ to highlight *Linearity* within the *Geometry Reset* menu. (menu 5-125)
2. Press **ENTER** to select.
A warning will be displayed . (menu 5-126)
3. Press **ENTER** to reset the Linearity adjustments
Or,
Press **EXIT** to return to the Geometry Reset menu.



Menu 5-125

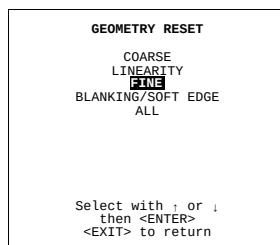


Menu 5-126

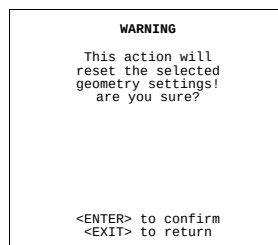
5.5.7.10.4 Reset Fine

How to reset the Fine adjustments ?

1. Push the cursor key ↑ or ↓ to highlight *Fine* within the *Geometry Reset* menu. (menu 5-127)
2. Press **ENTER** to select.
A warning will be displayed . (menu 5-128)
3. Press **ENTER** to reset the Fine adjustments
Or,
Press **EXIT** to return to the Geometry Reset menu.



Menu 5-127



Menu 5-128

5.5.7.10.5 Reset Blanking/Soft Edge

How to reset the Blanking/Soft Edge adjustments ?

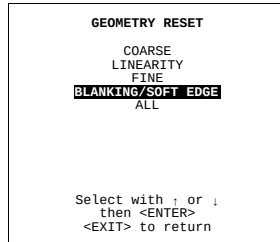
1. Push the cursor key ↑ or ↓ to highlight *Blanking/Soft Edge* within the *Geometry Reset* menu. (menu 5-129)
2. Press **ENTER** to select.
The *Soft Edge Reset* menu will be displayed. (menu 5-130)
3. Push the cursor key ↑ or ↓ to highlight *Soft Edge* or *All* in the Soft Edge Reset menu.

Soft Edge	Only the Soft Edge Width values will be reset to their default values.
All	All Blanking/Soft Edge values will be reset to their default values.

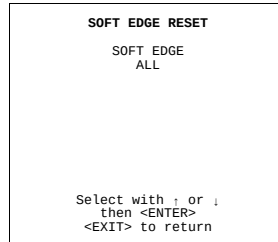
4. Press **ENTER** to select the desired Blanking/Soft Edge Reset value.

A warning will be displayed . (menu 5-131)

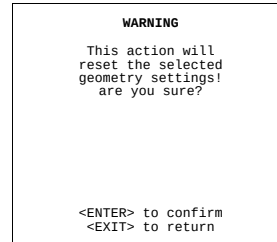
5. Press **ENTER** to reset the selected Blanking/Soft Edge adjustments
Or,
Press **EXIT** to return to the Geometry Reset menu.



Menu 5-129



Menu 5-130

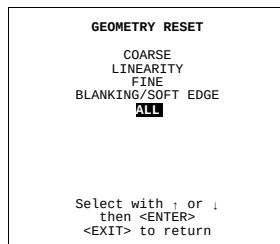


Menu 5-131

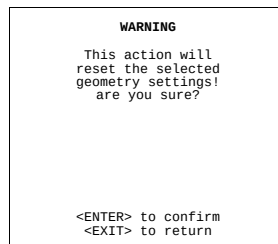
5.5.7.10.6 Reset All

How to reset the All geometry adjustments ?

1. Push the cursor key ↑ or ↓ to highlight *All* within the *Geometry Reset* menu. (menu 5-132)
2. Press **ENTER** to select.
A warning will be displayed . (menu 5-133)
3. Press **ENTER** to reset the All geometry adjustments
Or,
Press **EXIT** to return to the Geometry Reset menu.



Menu 5-132



Menu 5-133

5.5.8 Rename

Start Up

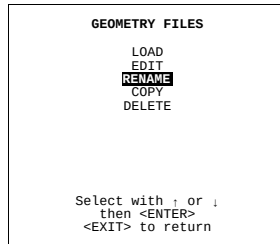
To change the name of a selected file:

1. Push the cursor key ↑ or ↓ to highlight *Rename*. (menu 5-134)
2. Press **ENTER**.

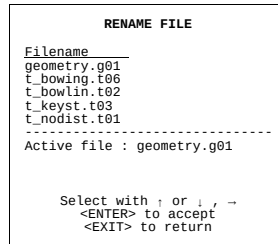
The Rename selection menu will be displayed. (menu 5-135)

3. Push the cursor key ↑ or ↓ to select a file name.
4. Press **ENTER** to select.

The Rename file menu will be displayed with the selected file name already filled in, leave in the 'From file name : ' area and in the 'To file name : ' area. The first character in the 'To file name : ' area is highlighted.



Menu 5-134



Menu 5-135

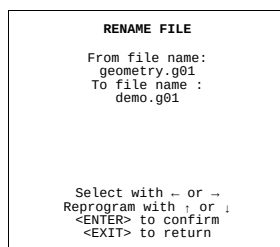
Changing the characters

1. Push the cursor keys ← or → to select the desired character. (menu 5-136)
Or,
Change that character by pushing the cursor keys ↑ or ↓. Numeric characters can be entered directly with numeric keys on the RCU.
Or,
Press **ENTER** to confirm.

The renamed file is entered in the list of files.

2. Press **EXIT** to return to the Rename menu selection.

No changes are made.



Menu 5-136

5.5.9 Copy

Start Up

To copy the name of a selected file :

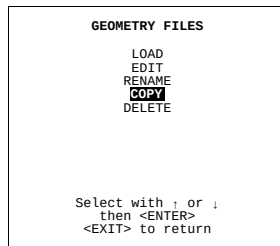
1. Push the cursor key ↑ or ↓ to highlight *Copy*. (menu 5-137)
2. Press **ENTER**.

The Copy selection menu will be displayed. (menu 5-138)

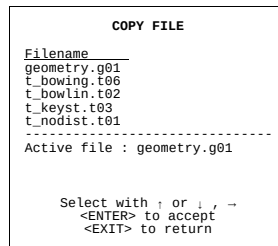
3. Push the cursor key ↑ or ↓ to select a file name.

4. Press **ENTER** to select.

The Copy file menu will be displayed with the selected file name already filled in, leave in the 'From file name : ' area and in the 'To file name : ' area. The first character in the 'To file name : ' area is highlighted.



Menu 5-137



Menu 5-138

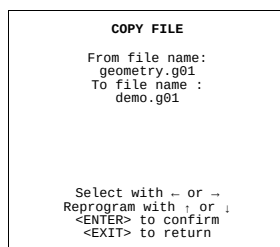
Changing the characters

1. Push the cursor key ← or → to select the desired character. (menu 5-139)
Or,
Change that character by pushing the cursor keys ↑ or ↓. Numeric characters can be entered directly with numeric keys on the RCU.
Or,
Press **ENTER** to confirm.

The copy file is entered in the list of files.

2. Press **EXIT** to return to the Copy menu selection.

No changes are made.



Menu 5-139

5.5.10 Delete

How to delete a Geometry file?

To delete a selected file out of the list of files :

1. Push the cursor key ↑ or ↓ to highlight *Delete*. (menu 5-140)
2. Press **ENTER**.

The delete selection menu will be displayed. (menu 5-141)

3. Push the cursor key ↑ or ↓ to select a file name.

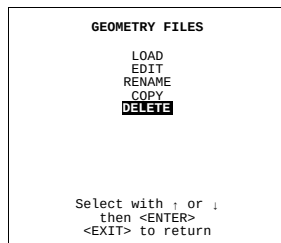
4. Press **ENTER** to select.

If [all] is selected, your password has to be entered before all files will be deleted.

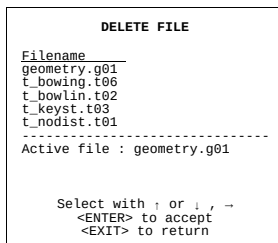
A confirmation menu "Delete file name ?" is displayed. (menu 5-142)

5. Press **ENTER** to delete the file, press **EXIT** if you want to keep it.

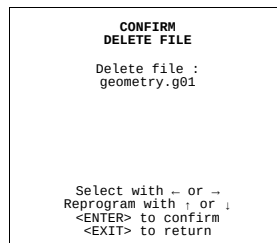
Note: The active file cannot be deleted.



Menu 5-140



Menu 5-141



Menu 5-142

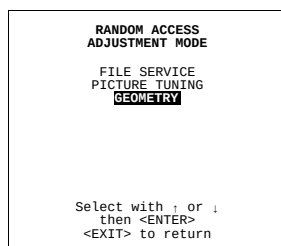
5.6 Geometry⁵

5.6.1 Geometry Start up

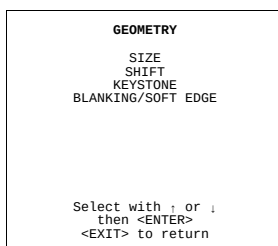
How to start up ?

1. Push the cursor key ↑ or ↓ to highlight *Geometry*. (menu 5-143)
2. Press **ENTER** to select.

The *Geometry* menu will be displayed. (menu 5-144)



Menu 5-143



Menu 5-144

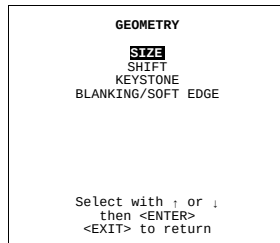
5.6.2 Size

What can be done ?

The size of the projected image can be adjusted in a vertical or horizontal way.

Size adjustment

1. Push the cursor key ↑ or ↓ to highlight *Size*. (menu 5-145)
2. Press **ENTER** to select.
3. Push the cursor key ↑ or ↓ to size the image in a vertical direction.
Push the cursor key ← or → to size the image in a horizontal direction.



Menu 5-145

5.6.3 Shift

What can be done ?

The image can be shifted in a horizontal or vertical direction.

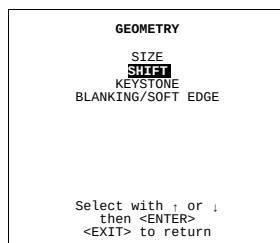
How to shift the image ?

1. Push the cursor key ↑ or ↓ to highlight *Shift*. (menu 5-146)
2. Press **ENTER** to select.
3. Push the cursor key ↑ or ↓ to shift the image in a vertical direction.
Push the cursor key ← or → to shift the image in a horizontal direction.

Note: The default value for the shift is 0.

Shifting in a vertical direction : when the shift value is positive, the image is shifted downwards, when the value is negative, the image is shifted upwards.

Shifting in a horizontal direction : when the shift value is positive, the image is shifted to the right, when the value is negative, the image is shifted to the left.



Menu 5-146

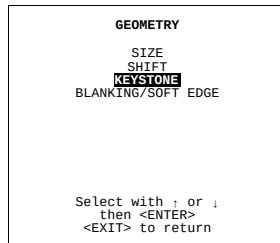
5.6.4 Keystone

What can be done ?

The keystone adjustment is used to align the image if the projector is mounted at a non standard projector angle.

How to adjust Keystone?

1. Push the cursor key ↑ or ↓ to highlight *Keystone*. (menu 5-147)
2. Press **ENTER** to select.
3. Push the cursor key ↑ or ↓ to adjust the keystone of the image.
When the upper part of the image is wider than the lower part of the image, push the cursor key →. The number indication below the bar scale will be negative.
When the upper part of the image is smaller than the lower part of the image, push the cursor key ←. The number indication below the bar scale will be positive.

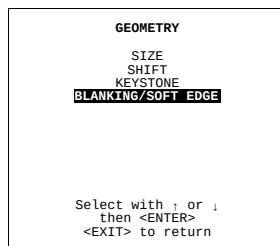


Menu 5-147

5.6.5 Blanking – Soft Edge

How to start up Blanking/Soft Edge?

1. Push the cursor key ↑ or ↓ to highlight *Blanking/Soft Edge*. (menu 5-148)
2. Press **ENTER** to select.



Menu 5-148



For more information about the Blanking Adjustment: see "Blanking", page 85.

For more information about the Soft Edge Adjustment: see "Electronic Soft Edge (Optional)", page 88.

6. INSTALLATION MODE

Overview

- Installation Mode Overview
- Build-up
- Start up
- Input Slots
- No signal
- Barco logo
- Lens Adjustment
- Menu Position
- 800 Peripheral
- Configuration
- OSD Color
- Internal Patterns
- Shutter (Optional)

6.1 Installation Mode Overview

Installation Mode Overview

- Input Slots
- No Signal
 - Color [Blue/Black]
 - Shutdown [On/Off]
 - Shutdown Time
- Barco Logo
 - Status [On/Off]
 - Background [On/Off]
 - Shift
 - Hot Key [Text/Off]
- Lens
 - Zoom/Focus
 - Shift
- Menu Position [Center/Edges]
- 800 Peripheral
 - Output Module [Standard/5 Cable]
 - Infrared [PPM/RC5]
- Configuration
 - Front table
 - Front ceiling
 - Rear table
 - Rear ceiling
- OSD Color
 - Red
 - Green
 - Yellow
- Internal Patterns
 - Outline
 - Hatch
 - Color Bars
 - Multiburst
 - Checkerboard
 - Page Char
 - Alphanumeric Chars
 - Character Sets
- Shutter (Optional)
 - Present [Yes/No]
 - Night Mode Status (Optional)
- Active 3D Conf.
 - Image [Left/Right]

6.2 Build-up

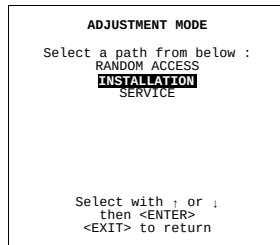
Build-up of the installation mode.

The installation menu is build-up in two parts which are connected together with the 'more' item. If the desired item is not in the list of the displayed menu, select 'more' with the cursor key and push **ENTER** to display the other items in the installation menu.

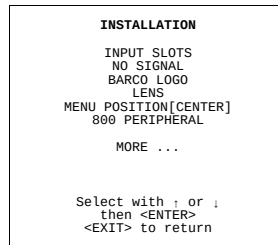
6.3 Start up

How to start up the installation mode ?

1. Push the cursor key ↑ or ↓ to to select *Installation*. (menu 6-1)
2. Press **ENTER** to start up the installation mode. (menu 6-2)



Menu 6-1



Menu 6-2

Overview of the different settings of the Installation menu

- Input slots: to set up the input priority
- No signal: selection of a black or blue background color
- Barco Logo: the Barco Logo can be added to the projected image, in overlay or on a background, on any place on the screen.
- Lens: to perform lens adjustments
- Menu Position: to position the menu (picture settings: contrast,...) in the center or at the edge of the screen
- 800 -Peripheral: to select the type of output module and communication code used in the RCVDS 05
- Configuration: to select the configuration set up of the projector.
- OSD color: to change the color of the highlighted item
- Internal Patterns: selection of different patterns
- Shutter: to indicate whether or not a shutter is used
- Active 3D configuration: forces the projector to project the left or the right image of a 3D source

6.4 Input Slots

What can be done ?

The input configuration of the variable inputs is shown in the *Input slots* menu.

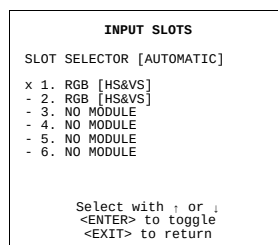
To view or change the input configuration.

1. Push the cursor key ↑ or ↓ to highlight *Input Slots*. (menu 6-3)
2. Press **ENTER** to select.

The input slots menu will be displayed. (menu 6-4)



Menu 6-3



Menu 6-4



The black indicated inputs are selectable and changeable. The gray indicated inputs are fix inputs and are not changeable.

The indication in front of the digit means :

x : valid signal connected to the input.

- : no valid signal connected to the input.

No module: the option is not installed

How to change the Slot Selector ?

1. Push the cursor key ↑ or ↓ to highlight *Slot Selector*.
2. Press **ENTER** to toggle between [AUTOMATIC] and [MANUAL].
Note: The default setting for the Slot Selector is [AUTOMATIC].

[AUTOMATIC]	The projector will scan the inputs one by one, if one source is found, this source will be projected, if different sources are found the priority is as follow (Slot 1: 5 Cable input, Slot 2: Computer).
[MANUAL]	The user will select the desired input.

Possible results for the input slots

Source	Indication
RGB analog	RGB-CV : separate sync is composite video on H/C input RGB-HS&VS: separate sync is horizontal and vertical sync RGB-CS : separate sync is composite sync RGB-SOG : sync on green
Component Video	Component video

What if a switcher is connected to the projector ?

If a RCVDS (switched on) or VS05 is connected to the projector, it will be also indicated on the menu by adding +800 peripheral.

If no 800 peripheral indication is made on the menu, there are still two possibilities, no RCVDS or VS05 connected or RCVDS is switched off.

When a 800 peripheral is connected to the projector, the input slots are not accessible with the cursor key to toggle their function.

6.5 No signal

Overview

- Changing the background color
- Changing the shutdown setting
- Changing the shutdown time

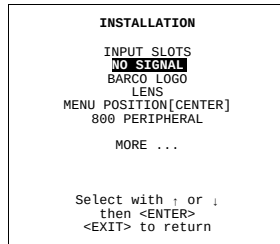
6.5.1 Changing the background color

How to change the background color ?

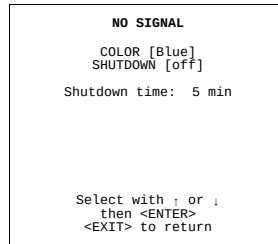
1. Push the cursor key ↑ or ↓ to highlight *No signal*. (menu 6-5)
2. Press **ENTER** to select.

The *No Signal* menu will be displayed. (menu 6-6)

3. Push the cursor key ↑ or ↓ to highlight *Color*.
4. Press **ENTER** to toggle between [BLUE] or [BLACK].



Menu 6-5



Menu 6-6

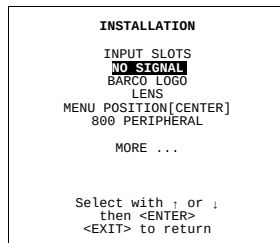
6.5.2 Changing the shutdown setting

How to change the Shutdown Setting ?

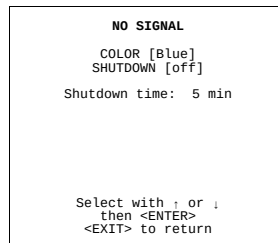
1. Push the cursor key ↑ or ↓ to highlight *No Signal*. (menu 6-7)
2. Press **ENTER** to select.

The *No Signal* menu will be displayed. (menu 6-8)

3. Push the cursor key ↑ or ↓ to highlight *Shutdown*.
4. Press **ENTER** to toggle between [ON] or [OFF].



Menu 6-7



Menu 6-8

6.5.3 Changing the shutdown time

Range

The shutdown time can be set between 5 min. and 60 min.

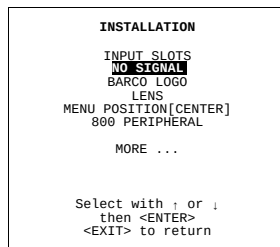
How to change the Shutdown Time ?

To set up the shutdown time, handle as follow:

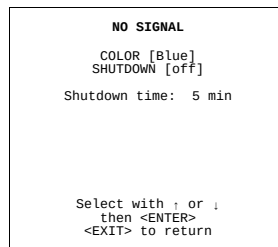
1. Push the cursor key ↑ or ↓ to highlight *No Signal*. (menu 6-9)
2. Press **ENTER** to select.

The *No Signal* menu will be displayed. (menu 6-10)

3. Push the cursor key ↑ or ↓ to highlight *Shutdown Time*.
 4. Push the cursor key ↑ or ↓ to change the digits.
- Or,
Enter the digits directly with the digit keys on the RCU.



Menu 6-9



Menu 6-10

6.6 Barco logo

What can be done?

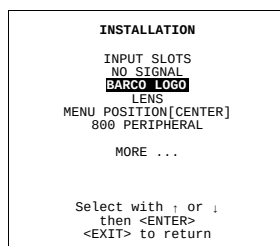
The BARCO logo can be added to the image, in overlay or on a background, on any place on the screen.

How to use the Barco Logo ?

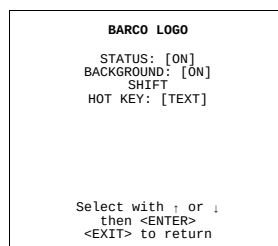
1. Push the cursor key ↑ or ↓ to highlight *BARCO logo*. (menu 6-11)
2. Press **ENTER** to select.

The *BARCO logo* menu will be displayed. (menu 6-12)

The actual settings will be displayed. Within this menu, three toggle settings and a shift control are available.



Menu 6-11



Menu 6-12

Available Settings

- STATUS [ON/OFF]
ON : BARCO logo will be displayed on the screen.
OFF: NO BARCO logo displayed on the screen.
- BACKGROUND [ON/OFF]
ON: BARCO logo will be displayed on a black background.
OFF: BARCO logo will be displayed without any background.
- SHIFT
By pushing the cursor key ↑, ↓, ← or →, the BARCO logo can be positioned anywhere on the screen.
- HOT KEY [TEXT/OFF]
OFF: no key on the RCU is used to display the BARCO logo.
TEXT: the TEXT key on the RCU is used to display or to remove the BARCO logo with one single push on this key (only in operational mode).

6.7 Lens Adjustment

What can be done ?

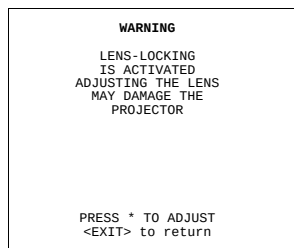
All lens adjustments are motorized and can be adjusted with the RCU.

The following items can be adjusted:

- zoom/focus
- shift



If the “Rugged” option is installed the * key will display a WARNING message.



Menu 6-13

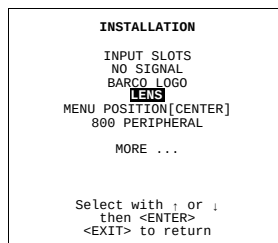
Zoom/Focus adjustment of the lens

1. Push the cursor key ↑ or ↓ to highlight *Lens*. (menu 6-14)
2. Press **ENTER** to select.

The adjustment pattern will be displayed.

With the **TEXT** key it is possible to toggle between the internal adjustment pattern or the connected source.

3. Push the cursor key ↑ or ↓ to zoom and ← or → to focus the image.
Note: *The zoom/focus function is only applied when a motorized zoom lens is mounted.*
4. When finished, press **EXIT** to return to the installation menu or press **ENTER** to go to the shift function.



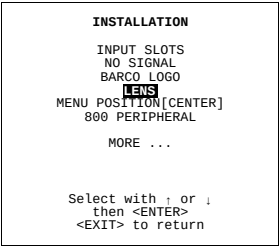
Menu 6-14

Shift adjustment of the lens

- 1. Push the cursor key ↑ or ↓ to highlight *Lens*. (menu 6-15)
- 2. Press **ENTER** to select.
The adjustment pattern will be displayed.
With the **TEXT** key it is possible to toggle between the internal adjustment pattern or the connected source.
- 3. Push the cursor key ↑ or ↓ to shift the image up and down and ← or → to shift the image left or right.
Note: *The lens can be shifted in a range of :*

vertical shift : - 2 mm to + 20 mm

horizontal shift : - 5 mm to + 5 mm
- 4. When finished, press **EXIT** to return to the installation menu or press **ENTER** to go to the zoom/focus function.



Menu 6-15

6.8 Menu Position

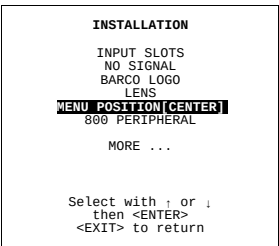
What can be done ?

The Menu position can be changed from bottom right to the center of the image.

How to change the Menu Position?

- 1. Push the cursor key ↑ or ↓ to highlight *Menu Position*. (menu 6-16)
- 2. Press **ENTER** to toggle between and [CENTER] and [EDGES].

[EDGES]	The Menu will always be displayed in the bottom right corner.
[CENTER]	The Menu will always be in the middle of the image.



Menu 6-16

6.9 800 Peripheral

Overview

- Defining the Output module of the RCVDS05
- Defining the communication protocol of the RCVDS05

6.9.1 Defining the Output module of the RCVDS05

Which modules are available?

When a RCVDS05 is connected to the projector, the type of output module of this RCVDS05 has to be defined in the 800 peripheral menu.

- standard output module
- 5 cable output module

Defining the Output module ?

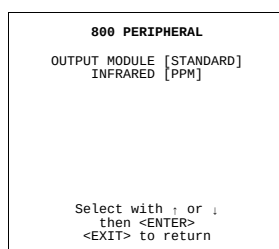
1. Push the cursor key ↑ or ↓ to highlight *800 Peripheral*. (menu 6-17)
2. Press **ENTER** to select.

The *800 Peripheral* menu will be displayed. (menu 6-18)

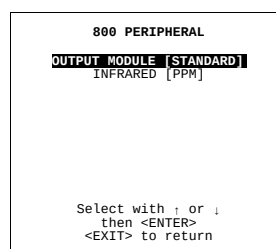
3. Push the cursor key ↑ or ↓ to highlight *Output module*. (menu 6-19)
4. Press **ENTER** to select.
5. Press **ENTER** to toggle between [STANDARD] or [5CABLE].



Menu 6-17



Menu 6-18



Menu 6-19

6.9.2 Defining the communication protocol of the RCVDS05

Which protocols are available ?

When a RCVDS05 is connected to the projector, the type of communication protocol used to communicate with the peripheral has to be defined in the 800 peripheral menu.

- PPM
- RC5

Defining the communication protocol

To define the communication protocol:

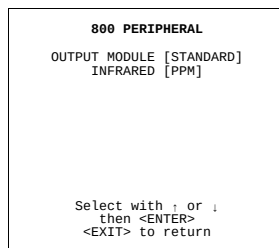
1. Push the cursor key ↑ or ↓ to highlight *800 Peripheral*. (menu 6-20)
2. Press **ENTER** to select.

The *800 Peripheral* menu will be displayed. (menu 6-21)

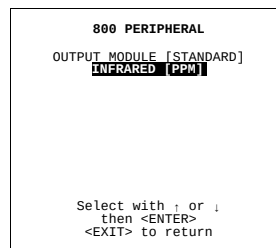
3. Push the cursor key ↑ or ↓ to highlight *infrared*. (menu 6-22)
4. Press **ENTER** to select.
5. Press **ENTER** to toggle between [PPM] or [RC5].



Menu 6-20



Menu 6-21



Menu 6-22

6.10 Configuration

What can be done ?

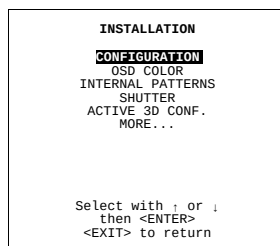
The way of physical installation of the projector can be defined to the projector.

The following installation configurations are possible:

- front/table
- front/ceiling
- rear/table
- rear/ceiling

Choosing the right configuration

1. Push the cursor key ↑ or ↓ to highlight *Configuration*. (menu 6-23)
2. Press **ENTER** to select.
The configuration menu will be displayed.



Menu 6-23

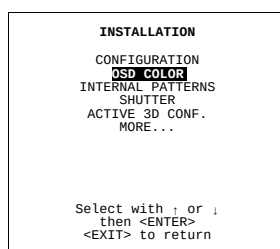
6.11 OSD Color

What can be done?

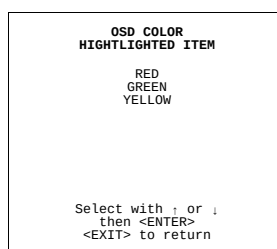
The highlighted items on the menus can be displayed in red, green or yellow.

How to change the OSD Color ?

1. Push the cursor key ↑ or ↓ to highlight *OSD Color*. (menu 6-24)
2. Press **ENTER** to select.
The OSD color menu will be displayed. (menu 6-25)



Menu 6-24



Menu 6-25

6.12 Internal Patterns

What can be done with these internal patterns?

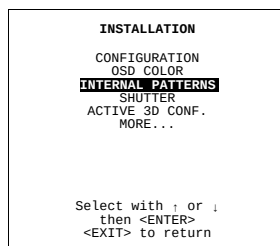
The projector is equipped with different internal patterns which can be used for measurement purposes.

Available patterns

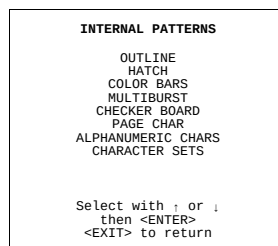
- Outline
- Hatch
- Color bars
- Multiburst
- Checker board
- Page Char
- Alpha numeric char
- Character sets

How to select an internal pattern ?

1. Push the cursor key ↑ or ↓ to highlight *Internal Patterns*. (menu 6-26)
2. Press **ENTER** to select.
The internal patterns menu will be displayed. (menu 6-27)



Menu 6-26



Menu 6-27

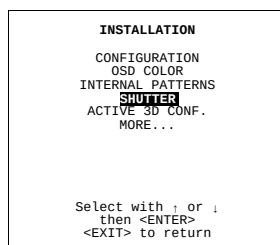
6.13 Shutter (Optional)



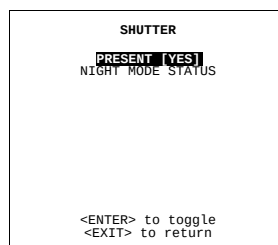
The shutter is optional, the presence of a shutter has to be confirmed in the shutter menu.

Setting the shutter

1. Push the cursor key ↑ or ↓ to highlight *Shutter*. (menu 6-28)
2. Press **ENTER** to select.
The Shutter menu will be displayed.
3. Push the cursor key ↑ or ↓ to highlight *Present*. (menu 6-29)
4. Press **ENTER** to toggle between [YES] or [NO].



Menu 6-28



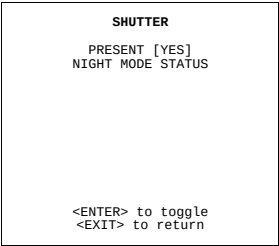
Menu 6-29

Night Mode (Optional) Status

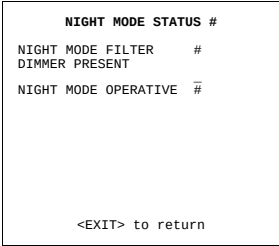
The optional Night Mode improves the Black Level in e.g. night missions, the IG will generate nightly images and will control the dimmer on the projector. The night mode filter will be activated when the light output is dimmed to a certain level. the Night Mode Status will show the status of the night mode filter and the dimmer (Green = OK, Red = Error).

- 1. Push the cursor key ↑ or ↓ to highlight *Night Mode Status*. (menu 6-30)
- 2. Press **ENTER** to select.

The Night Mode Status menu will be displayed. (menu 6-31)



Menu 6-30



Menu 6-31

7. SERVICE MODE

Overview

- Service Mode Overview
- Build-up
- Start up
- Identification
- Change password
- Change the address
- Change Baudrate
- Reset Lamp Runtime
- Lamp Runtime history
- I2C Diagnoses
- Dimming
- Uniformity
- Electronic convergence
- DynaColor™
- Gray Level Definition
- Purity
- Display Blanking
- Panel Adjustments
- Preset Input Balance

7.1 Service Mode Overview

Service Mode Overview

- Identification
 - Title Page
 - Sim Options
- Change Password
- Change Proj. Address
 - Projector Address
 - Common Address (RC5)
 - Common Address (PPM)
- Change Baudrate PC
- Reset Lamp Runtime
- Lamp Runtime History
- I2C Diagnostics
- Dimming
 - Lamp Dimming
 - Motorized Dimming (Optional)
- Uniformity
 - Adjust Gray
 - Adjust Black
 - Adjust White
 - Default
 - Initialize Black
 - Initialize White
- Electronic Convergence
- Dynacolor™
 - Adjust
 - Active [On/Off]
 - Default
 - Initialize
- Gray Level Definition
 - Adjust
 - Active [On/Off]
 - Initialize
- Purity
- Display Blanking
 - Adjust
 - Active [On/Off]
 - Initialize
- Panel Adjustments (Reserved to Qualified Service Personnel)
- Preset Input Balance (Reserved to Qualified Service Personnel)

7.2 Build-up

Build-up

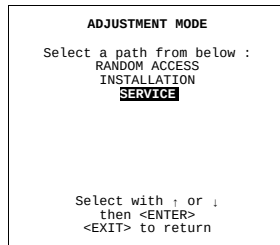
The service menu is build-up in two parts which are connected together with the 'more' item. If the desired item is not in the list of the displayed menu, select 'more' with the cursor key and push ENTER to display the other items in the service menu.

7.3 Start up

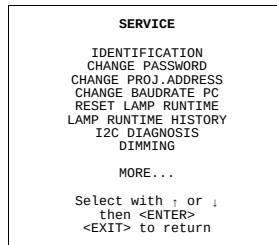
How to start up the service mode ?

1. Push the cursor key ↑ or ↓ to highlight **Service**. (menu 7-1)
2. Press **ENTER** to select.

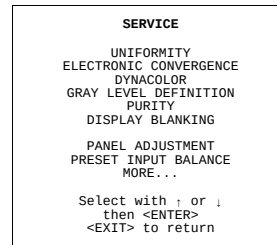
The *Service Mode* menu will be displayed. (menu 7-2)



Menu 7-1



Menu 7-2



Menu 7-3



Some items in the Service mode are password protected (when the password function is active). Enter the password to continue. All other password protected items are now available if you stay in the adjustment mode.

7.4 Identification

Overview

- The different identification screens
- Displaying the identification screen

7.4.1 The different identification screens

What can be seen in the identification menu ?

- Title page: general information of the projector
- SIM Options: shows which options are installed

What can be seen on the title page screen?

The title page screen shows the general information of the projector.

The following items will be displayed:

- Type of projector: BARCOREALITY SIM6 ULTRA
- Proj. address: To change the address of the projector, see "Projector Address", page 30
- Software version
- Configuration:
 - front/ceiling
 - front/table
 - rear/ceiling
 - rear/table
- Baud rate PC: transfer speed for communication with an IBM PC (or compatible) or MAC. The baud rate of the projector must be the same as the baud rate of the connected computer. When there is a difference, consult 'Change Baudrate PC' in this chapter.
- Text: Indicates if the on screen text information (picture setting textboxes: contrast,...) is enabled or not
- Projector Serial number: indicates the fabrication number of the projector. This number can be useful when calling for technical assistance.
- Projector Run Time: gives the total run time since the first start up. All projectors leave the factory with a run time of approximately 24 hours.

What can be seen on the BARCOREALITY SIM6 ULTRA Options screen ?

Following options are indicated as active or inactive (ON/OFF)

7. Service Mode

- Soft edge
- TDR: Transport Delay Reduction
- TMR: True Motion Reproduction
- Uniformity
- Motorized dimming
- Rugged
- Night Mode
- Warping
- Gray Level Definition
- Dynacolor
- Active Stereo Compatibility
- Field Stretch
- Video
- CLO

7.4.2 Displaying the identification screen

Start up

1. Push the cursor key ↑ or ↓ to highlight *Identification*. (menu 7-4)
2. Press **ENTER** to display the Identification screen. (menu 7-5)
3. Push the cursor key ↑ or ↓ to choose between *Title page* or *Sim options*.
4. Press **ENTER** to confirm. (menu 7-6)

```
SERVICE
IDENTIFICATION
CHANGE PASSWORD
CHANGE PROJ.ADDRESS
CHANGE BAUDRATE PC
RESET LAMP RUNTIME
LAMP RUNTIME HISTORY
I2C DIAGNOSIS
DIMMING
MORE...

Select with ; or |
then <ENTER>
<EXIT> to return
```

Menu 7-4

```
IDENTIFICATION
TITLE PAGE
SIM OPTIONS

Select with ; or |
then <ENTER>
<EXIT> to return
```

Menu 7-5

```
BARCO
REALITY SIM 6 ULTRA HB

Proj. address: 001
Soft. version: 1.21
Config: FRONT/TABLE
Baudrate PC: 57600
text: ON
Serial no:1010200
Run time: 100 h

<EXIT> to return
```

Menu 7-6

```
BARCO
REALITY SIM 6 ULTRA HB

Soft edge: ON
TDR: ON
TMR: ON
Uniformity: ON
Mot. dimming: OFF
Rugged: OFF
Night Mode: ON

<EXIT> to return
```

Menu 7-7

```
BARCO
REALITY SIM 6 ULTRA HB

WARPING: ON
GRAY LEVEL: ON
DYNACOLOR: ON
ACTIVE 3D: OFF
VIDEO: OFF
FIELD STRETCH: OFF

<EXIT> to return
```

Menu 7-8

7.5 Change password

How to enable or disable the password function ?

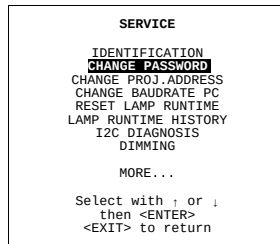
This item is password protected when the password strap is installed.

The password function is enabled when the password strap on the controller module is installed. Consult an authorized Barco service technician to change the strap position.

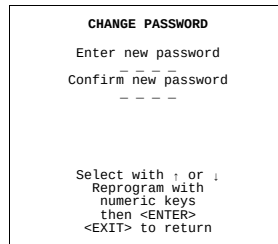
How to change the password ?

1. Push the cursor key ↑ or ↓ to highlight *Change Password*. (menu 7-9)
2. Press **ENTER** to display the *Change Password* menu. (menu 7-10)
 - 4 ' _ ' characters are displayed. A new password can be entered with the digit keys of the RCU or local keypad. Every time a digit is entered, a 'X' appears on the screen. The confirm new password is still grayed out.
3. Press **ENTER**, the confirm new password item becomes active. Press **EXIT** if no changes have to be made.
4. 4 'x' characters are displayed in the confirm new password area. Key in your password again with the digit keys of the RCU or the local keypad.
5. Press **ENTER** to select.

If the confirm new password entry is the same as the entered new password, the password is changed.



Menu 7-9



Menu 7-10

7.6 Change the address

What can be changed?

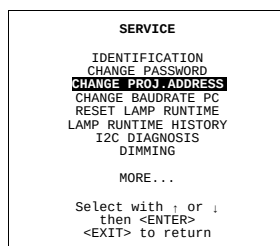
Within the Change password address item, the following items can be changed:

- projector address
- common address

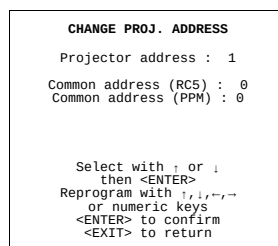
7.6.1 Start up

How to change the address ?

1. Push the cursor key ↑ or ↓ to highlight *Change Proj. Address*. (menu 7-11)
2. Press **ENTER** to select.
The Change Projector Address menu will be displayed. (menu 7-12)



Menu 7-11

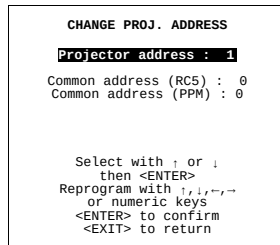


Menu 7-12

7.6.2 Projector Address

How to change the Projector Address?

1. Push the cursor key ↑ or ↓ to highlight *Projector Address*. (menu 7-13)
2. Press **ENTER** to select.
The actual address is filled in.
The first digit is highlighted.



Menu 7-13

How to enter the new projector address?

1. Enter the digits with the digit keys on the RCU or local keypad.
Or,
push the cursor keys ← or → to select a digit and change the value by pushing the cursor key ↑ or ↓ until the new value is reached.

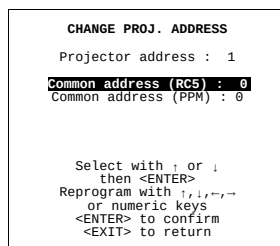


Continue with the other digits on the same way. The individual address must be between 0 and 255.

7.6.3 Common Address

How to change a Common Address?

1. Push the cursor key ↑ or ↓ to highlight the active *Common Address* e.g. (RC5). (menu 7-14)
2. Press **ENTER** to select.



Menu 7-14

Entering the new common address

1. Enter with the digit keys on the RCU or the local keypad
Or,
pushing the cursor key ↑ or ↓ until the new value is reached.



Only addresses between 0 and 1 are valid.

7.7 Change Baudrate

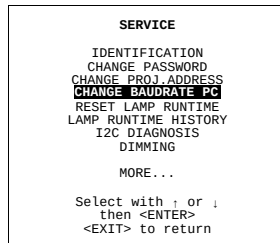
Start up

1. Push the cursor key ↑ or ↓ to highlight *Change Baudrate PC*. (menu 7-15)
2. Press **ENTER** to display the *Change Baudrate PC* menu. (menu 7-16)

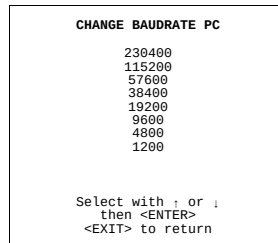
The actual baudrate will be highlighted.

The following baud rates are available: 230400/115200/57600/38400/19200/9600/4800/1200

3. Push the cursor key ↑ or ↓ to highlight the desired baudrate.
4. Press **ENTER** to select.



Menu 7-15



Menu 7-16

7.8 Reset Lamp Runtime

When is it allowed?

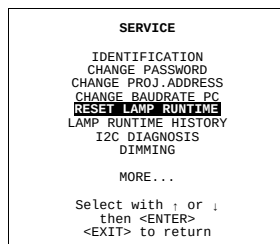
Reset lamp run time is only allowed when a new lamp is installed.

Start up

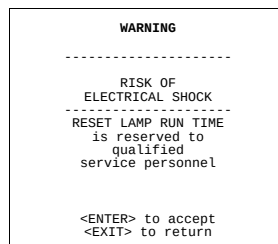
1. Push the cursor key ↑ or ↓ to highlight Reset Lamp Run Time. (menu 7-17)
2. Press **ENTER**.

The following warning will be displayed :

Risk of electrical shock. Reset lamp run time is reserved to qualified service personnel. If you are not qualified, press **EXIT** to cancel the reset operation. (menu 7-18)



Menu 7-17



Menu 7-18

7.9 Lamp Runtime history

What can be done?

Getting an overview of the different lamp run times

Start up

1. Push the cursor key ↑ or ↓ to highlight *Lamp Run Time History*. (menu 7-19)
2. Press **ENTER** to display the *Lamp Run Time overview*. (menu 7-20)
A listing with the lamp serial number and the corresponding run time will be displayed.
The actual installed lamp will be marked.
3. Press **ENTER** to return to the service mode selection menu.

```

SERVICE
IDENTIFICATION
CHANGE PASSWORD
CHANGE PROJ.ADDRESS
CHANGE BAUDRATE PC
RESET LAMP RUNTIME
LAMP RUNTIME HISTORY
I2C DIAGNOSIS
DIMMING
MORE...

Select with ↑ or ↓
then <ENTER>
<EXIT> to return
    
```

Menu 7-19

```

LAMP RUNTIME HISTORY
Serial No  Runtime
> 011121    600 h
  011098    800 h
  011054    1000 h
  000000     0 h
  000000     0 h
  000000     0 h
-----
<ENTER> for detail
<EXIT> to return
    
```

Menu 7-20

7.10 I2C Diagnoses

What can be done?

This menu gives an overview of the correct working of the I²C controlled IC's.

How to start up the I2C diagnoses?

1. Push the cursor key ↑ or ↓ to highlight *I2C Diagnoses*. (menu 7-21)
2. Press **ENTER** to display the overview. (menu 7-22)

```

SERVICE
IDENTIFICATION
CHANGE PASSWORD
CHANGE PROJ.ADDRESS
CHANGE BAUDRATE PC
RESET LAMP RUNTIME
LAMP RUNTIME HISTORY
I2C DIAGNOSIS
DIMMING
MORE...

Select with ↑ or ↓
then <ENTER>
<EXIT> to return
    
```

Menu 7-21

```

I2C DIAGNOSIS
DECODER      12H DCA
INPUT SELECTOR 16H ###
AUDIO        18H ###
LCD DRIVER   50H ###
LCD DRIVER   54H ###
MOTOR DRIVER 74H ###
LAMP DRIVER  78H ###
LCD DRIVER   COH ###
#####
Scroll with ↑ or ↓
<EXIT> to return
    
```

Menu 7-22

7.11 Dimming

7.11.1 Lamp Dimming

How to perform lamp dimming ?

1. Push the cursor key ↑ or ↓ to highlight *Dimming*. (menu 7-23)
2. Press **ENTER** to select.

The *Dimming* menu is displayed.

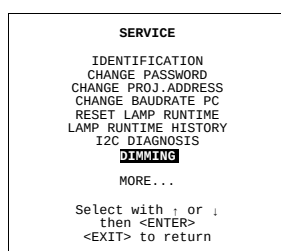
Note: The *Lamp Dimming* function is not present in the SIM6 LL projector, the *Dimming* menu contains only the optional *Motorized Dimming* if present, otherwise the *Dimming* item in the service menu is grayed out

See menu 7-24.

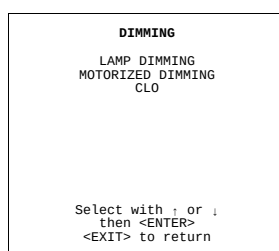
3. Push the cursor key ↑ or ↓ to highlight *Lamp dimming*
4. Press **ENTER** to select.

A slider box is displayed.

Push the cursor key ← or → to dim more or less the lamp



Menu 7-23



Menu 7-24

7.11.2 Motorized Dimming (Optional)



The Motorized Dimming menu item will be grayed out:

–When this option is not installed.

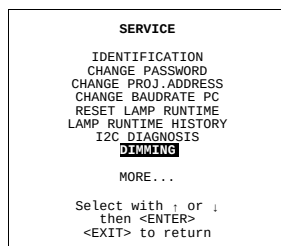
–When CLO is active.

What can be done ?

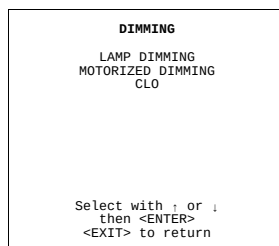
Motorized dimming insures a better dynamic behavior through ECR (Extended Contrast Ratio) by enabling the possibility to adjust the light output level of the projector.

How to perform motorized dimming ?

1. Push the cursor key ↑ or ↓ to highlight *Dimming*. (menu 7-25)
2. Press **ENTER** to select.
The *Dimming* menu is displayed
See menu 7-26.
3. If necessary select *motorized dimming* and press **ENTER**.
4. Use the cursor keys ← or → to dim more or less or use the numeric keys to fill in a value.



Menu 7-25



Menu 7-26

7.11.3 Constant Light Output (Optional)



The CLO menu item will be greyed out when this option is not installed.

What can be done?

In a multichannel setup, due to tolerances on the lamps and optical components (e.g. lenses), or due to the different positions of the projectors in relation to the screen, there will always be a difference in light output between the projectors.

Within this menu it is possible to track and maintain the brightness level of each projector, the projector will deliver a Constant Light Output = CLO.

How to set up a CLO system?

CLO levels in Multichannel setups are controlled through RS232 by e.g. the xRACU™ Master Control Unit.

Overview of the CLO menu

Following 'Adjustable' parameters are available in the CLO menu:

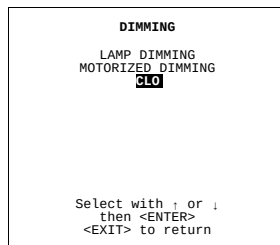
- Tracking Interval: this parameter will determine the time between each Light Measurement.
- Following Tracking Intervals are available:
 - 8s
 - 16s
 - 32s
 - 64s
 - 128s
- Target Light Value: this parameter will set the desired Constant Light Output Value.

Following parameters can be consulted to start up or maintain a setup with projectors running in CLO mode:

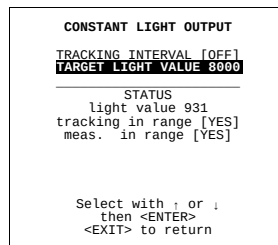
- light value: this parameter will display the current Light Output Value measured by the Light Sensor.
- tracking in range: CLO is running in optimal conditions when this parameter indicates [YES].
- measuring in range: CLO is running in optimal conditions when this parameter indicates [YES].

How to use the CLO menu?

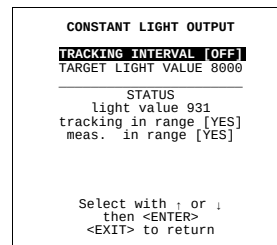
1. Push the cursor key ↑ or ↓ to highlight CLO. (menu 7-27)
 2. Press **ENTER** to select.
The CLO menu will be displayed.
 3. Push the cursor key ↑ or ↓ to highlight Target Light Value and press **ENTER** to select. (menu 7-28)
 4. Use the cursor keys ← or → in combination with the numeric keys to enter the Target Light Value, e.g. 8000, and press **ENTER** to confirm.
 5. Push the cursor key ↑ or ↓ to highlight Tracking Interval and press **ENTER** to select. (menu 7-29)
 6. Use the cursor keys ← or → to select the desired Tracking Interval, e.g. 16s, and press **ENTER** to activate. (menu 7-30)
- Note:** The Motorized Dimming menu item is greyed out when CLO is active.



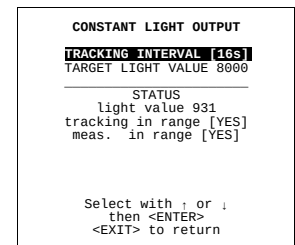
Menu 7-27



Menu 7-28



Menu 7-29



Menu 7-30

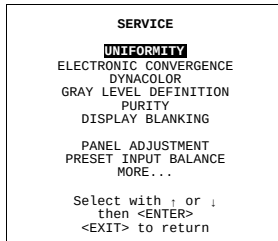
7.12 Uniformity



Changing these settings may seriously affect the performance of the projector.

Start up

1. Push the cursor key ↑ or ↓ to highlight *Uniformity*. (menu 7-31)



Menu 7-31



Uniformity is reserved to qualified service personnel. If you are not qualified, press EXIT to cancel the Uniformity Adjustment.

What is done?

The Uniformity Adjustment can be used to smooth out color differences in the blending zones in a multi channel setup.

The Uniformity Adjustment allows the user to select an area off the projected image, the user can define the position and size of this area, a selection box will show the selected area.

Within the selected area it is possible to adjust the level of the Red, Green, Blue or all 3 colors (=White), this is possible for the Gray, Black and White Level.

How to adjust the Uniformity?

1. Press **ENTER** to display the *Uniformity* menu. (menu 7-32)
2. Push the cursor key ↑ or ↓ to highlight the desired (Uniformity) Adjustment Level e.g. Adjust Gray. (menu 7-33)
3. Press **ENTER** to continue.

The *Uniformity Adjustment Info* menu will be displayed. (menu 7-34)

4. Press **ENTER** to continue.

A selection box and info box will be displayed. (image 7-1)

5. Press **ENTER** to toggle between:

- Moving the selection box
- Adjusting the size of the selection box

A “move” or “size” icon will be displayed in the info box. (image 7-2)

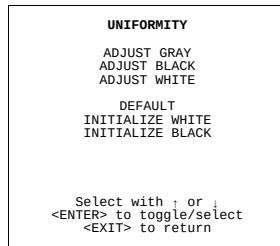
6. Use the cursor keys to move/size the desired area.

7. Use the **COLOR** key to select the desired color Red, Green, Blue or all 3 (=White) to adjust.

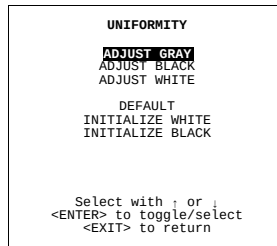
The selected color will be displayed in the info box. (image 7-3)

7. Service Mode

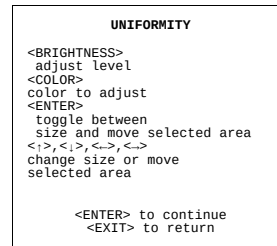
8. Use the **BRIGHTNESS** key to adjust the level of the selected color within the selection box e.g. raising the White Level. (image 7-4)
9. Press **EXIT** to return to the Service Mode menu.



Menu 7-32



Menu 7-33



Menu 7-34

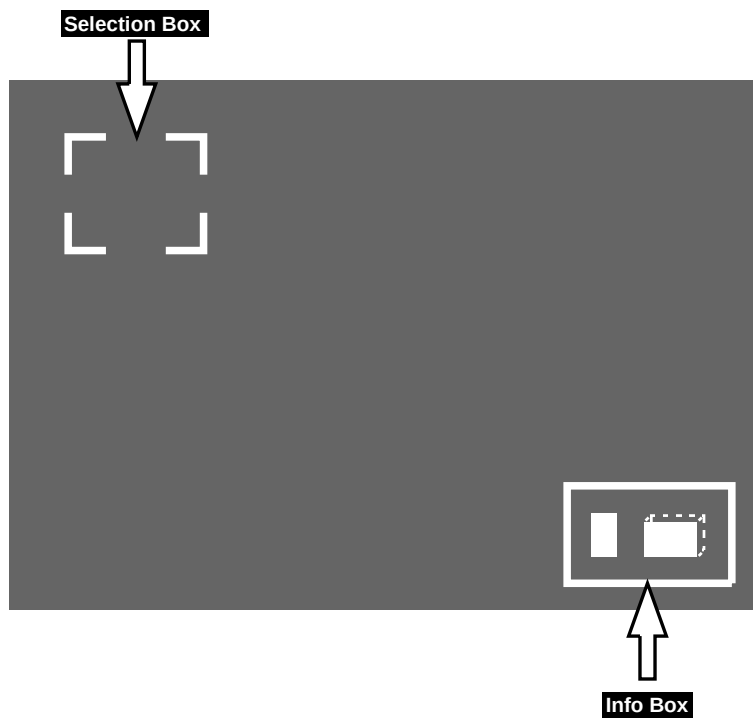


Image 7-1
Selection and info box

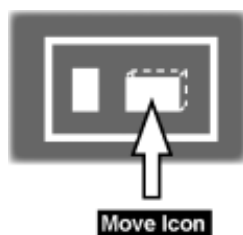


Image 7-2
"Move" and "Size" icon

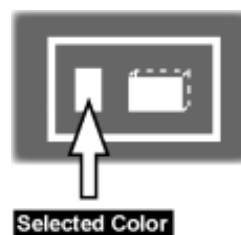
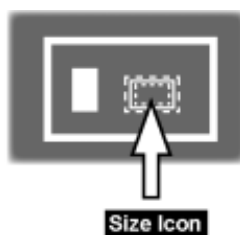


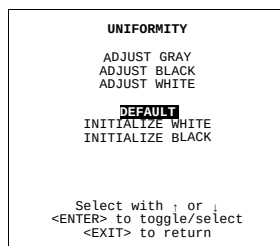
Image 7-3
Selected color info



Image 7-4
Adjusting the level of the selected color within the selection box.

How to set Uniformity back to the Default settings?

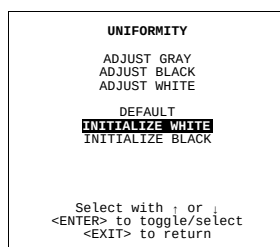
1. Push the cursor key ↑ or ↓ to highlight *Default*. (menu 7-35)
2. Press **ENTER** to set Uniformity back to the Default settings.



Menu 7-35

How to Initialize the White Uniformity settings?

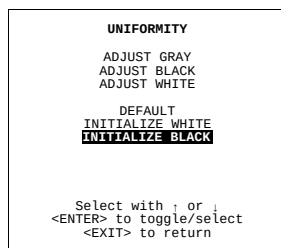
1. Push the cursor key ↑ or ↓ to highlight *Initialize White*. (menu 7-36)
2. Press **ENTER** to Initialize the White Uniformity settings.



Menu 7-36

How to Initialize the Black Uniformity settings?

1. Push the cursor key ↑ or ↓ to highlight *Initialize Black*. (menu 7-37)
2. Press **ENTER** to Initialize the Black Uniformity settings.



Menu 7-37

7.13 Electronic convergence

What can be done ?

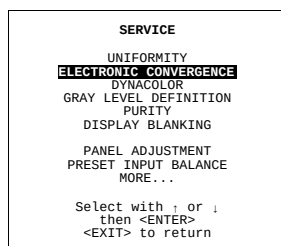
The electronic convergence allows to correct some convergence errors by shifting horizontally an integral amount of pixels (-3,-2,-1,0,+1,+2,+3), the adjustment is possible on the three colors.



To avoid color distortion when not necessary leave the electronic convergence settings with a neutral value for the three colors (+0)

How to adjust the convergence ?

1. Push the cursor key ↑ or ↓ to highlight *Electronic convergence*. (menu 7-38)
2. Press **ENTER** to select.
The Electronic Convergence slider box is displayed. (image 7-5)
3. Push the cursor key ↑ or ↓ to select the desired color.
4. Push the cursor key ← or → to adjust the convergence (Range in pixels: -3 to +3)
5. Press **EXIT** to return to the Service Mode menu.



Menu 7-38

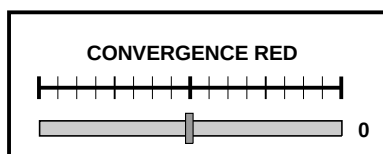


Image 7-5
Electronic Convergence slider box

7.14 DynaColor™

What is done?

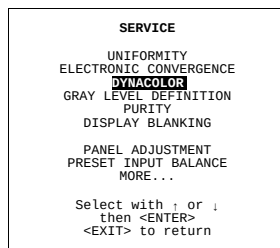
Due to the tolerance (lamps) and left-right setup (mirrors) of optical components, color differences may occur on the projected image(s).

DynaColor™ allows a dynamic correction of these color differences, this is done by adding one primary color to another e.g. adding Green to Red, the adjustment is possible on the left side, right side or both sides.

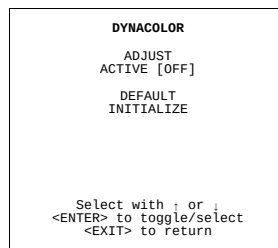
How to Start Up DynaColor?

1. Push the cursor key ↑ or ↓ to highlight *DynaColor*. (menu 7-39)
2. Press **ENTER** to select.

The *DynaColor* menu will be displayed. (menu 7-40)



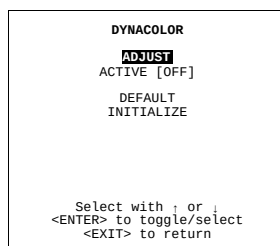
Menu 7-39



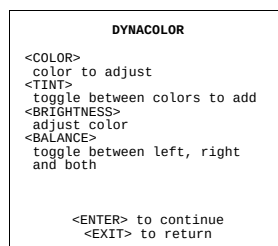
Menu 7-40

How to Adjust DynaColor?

1. Push the cursor key ↑ or ↓ to highlight *Adjust*. (menu 7-41)
 2. Press **ENTER** to select.
- The *DynaColor* Info menu will be displayed. (menu 7-42)
3. Press **ENTER** to continue.
- The DynaColor slider box will be displayed.
4. Use the **COLOR** key to select the desired Primary Color to adjust. (image 7-6)
 5. Use the **BALANCE** key to select the left, right or both sides of the selected Primary Color. (image 7-7)
 6. Use the **TINT** Key to select a Primary Color to add to the selection. (image 7-8)
 7. Use the **BRIGHTNESS** key to adjust the level of adding the second Primary Color (Range: 0 to 1000). (image 7-9)
 8. Press **EXIT** to return to the *Primary Color Modulation* menu.



Menu 7-41



Menu 7-42

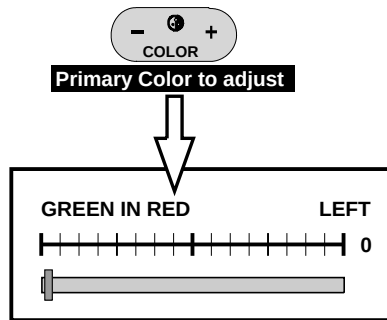


Image 7-6
Select the desired Primary Color to adjust

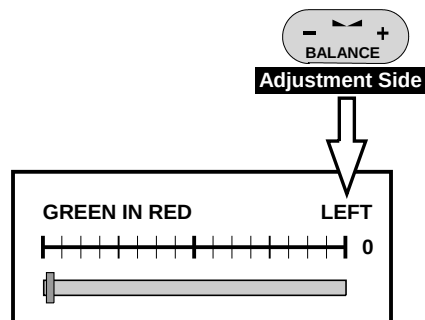


Image 7-7
Select the left, right or both sides

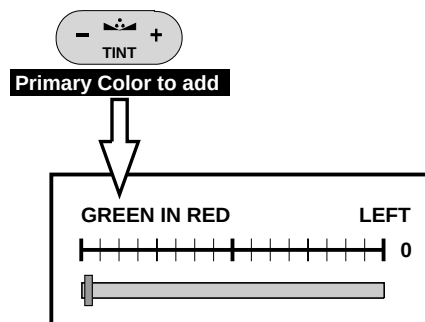


Image 7-8
Select a Primary Color to add

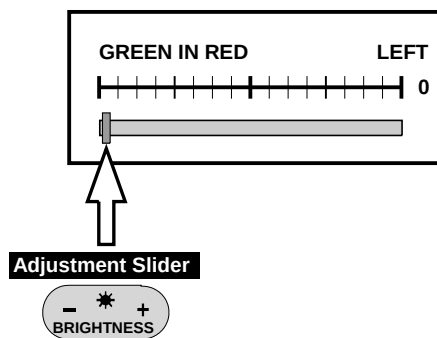
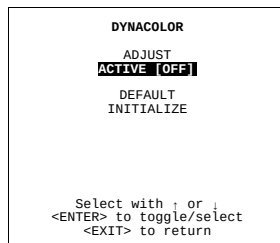


Image 7-9
Adjust the level of adding the second Primary Color

How to Toggle DynaColor On/Off?

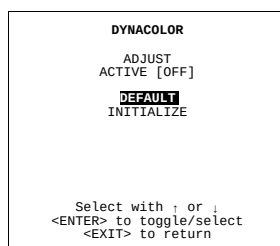
1. Push the cursor key ↑ or ↓ to highlight *Active [OFF]*. (menu 7-43)
2. Press **ENTER** to toggle DynaColor On/Off.



Menu 7-43

How to set DynaColor back to the Default settings?

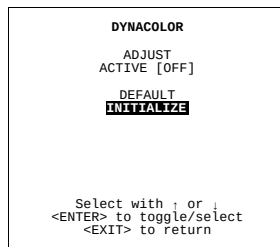
1. Push the cursor key ↑ or ↓ to highlight *Default*. (menu 7-44)
2. Press **ENTER** to set DynaColor back to the Default settings.



Menu 7-44

How to Initialize DynaColor?

1. Push the cursor key ↑ or ↓ to highlight *Initialize*. (menu 7-45)
2. Press **ENTER** to reset the DynaColor settings to 0.
3. Press **EXIT** to return to the *Service Mode* menu.



Menu 7-45

7.15 Gray Level Definition

What is done?

When switchers or other peripherals are used in the signal path from the source to the projector, signal level alterations may occur.

The Gray Level Definition allows to correct some of these alterations by adjusting the color levels of a selected Gray Level Range (e.g. adjusting the Red level for the Gray Level Range: 1%-49%), 9 Gray Level Ranges are available.

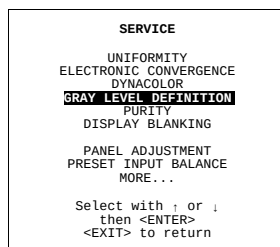


Gray Level Definition only has an influence on external sources, not on the internal projector patterns.

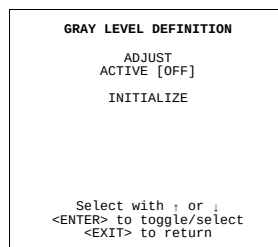
How to Start Up Gray Level Definition?

1. Push the cursor key ↑ or ↓ to highlight *Gray Level Definition*. (menu 7-46)
2. Press **ENTER** to select.

The *Gray Level Definition* menu will be displayed. (menu 7-47)



Menu 7-46



Menu 7-47

How to Adjust Gray Level Definition?

1. Push the cursor key ↑ or ↓ to highlight *Adjust*. (menu 7-48)
2. Press **ENTER** to select.

The Gray Level Definition Info menu will be displayed. (menu 7-49)

3. Press **ENTER** to continue.

The *Gray Level Definition* menu will be displayed. (image 7-10)

4. Push the cursor key ← or → to highlight the Level % indication.

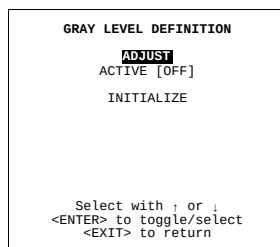
7. Service Mode

5. Push the cursor key ↑ or ↓ to select the desired Gray Level Range.

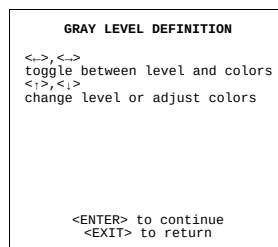
The following Gray Level Ranges are available.

Level	Affected Gray Levels
0%	0%-99%
12.5%	1%-24%
25%	1%-49%
37.5%	26%-49%
50%	1%-99%
62.5%	51%-74%
75%	51%-99%
87.5%	76%-99%
100%	1%-100%

6. Push the cursor key ← or → to highlight the color to adjust.
7. Push the cursor key ↑ or ↓ to adjust the level of the selected color (Range: -100 to +100).
8. Press **EXIT** to return to the *Gray Level Definition* menu.



Menu 7-48



Menu 7-49

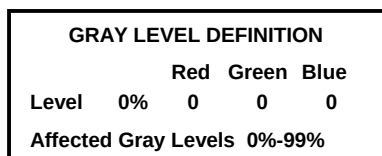
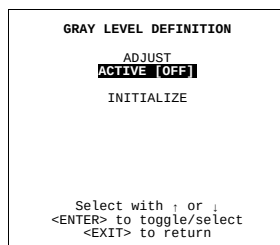


Image 7-10
Gray Level Definition

How to Toggle Gray level Definition On/Off?

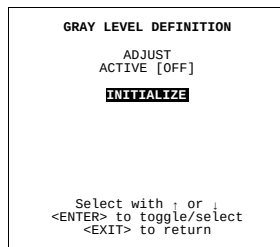
1. Push the cursor key ↑ or ↓ to highlight *Active [Off]*. (menu 7-50)
2. Press **ENTER** to toggle Gray level Definition On/Off.



Menu 7-50

How to Initialize Gray level Definition?

1. Push the cursor key ↑ or ↓ to highlight *Initialize*. (menu 7-51)
2. Press **ENTER** reset the Gray level Definition settings to 0.
3. Press **EXIT** to return to the *Service Mode* menu.



Menu 7-51

7.16 Purity

What is done?

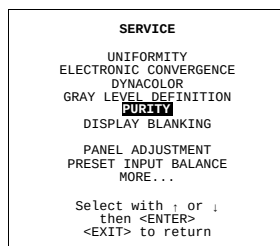
This allows the user to check the gradual transition between the different color levels (=Purity).



These color levels are generated by the projector.

How to adjust Purity?

1. Push the cursor key ↑ or ↓ to highlight *Purity*. (menu 7-52)
2. Press **ENTER** to select.
The Purity menu will be displayed.
3. Use the cursor keys to select the desired color (Red, Green, Blue or White) and adjustment arrow (Min, -1, +1, Max).
See image 7-11.
4. Press **ENTER** to adjust the level of the selected color (Range: 0 to 255).
The color levels will be displayed within the *Purity Adjustment* menu. (image 7-12)
5. Press **EXIT** to return to the *Service Mode* menu.



Menu 7-52

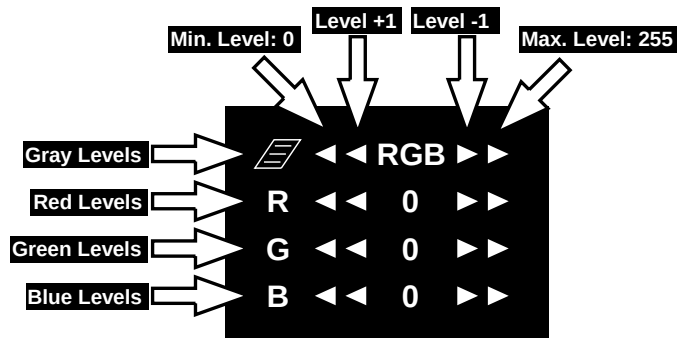


Image 7-11
The Purity menu

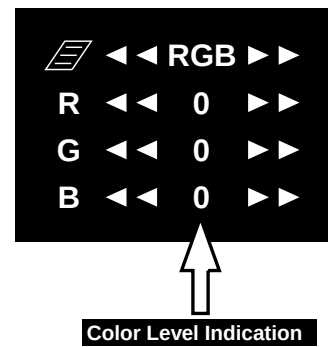


Image 7-12
Purity color level indication

7.17 Display Blanking

What can be done?

Display Blanking is an additional blanking that can be used on an image which is already blanked through Geometry-Banking and/or Windowing-Blanking.

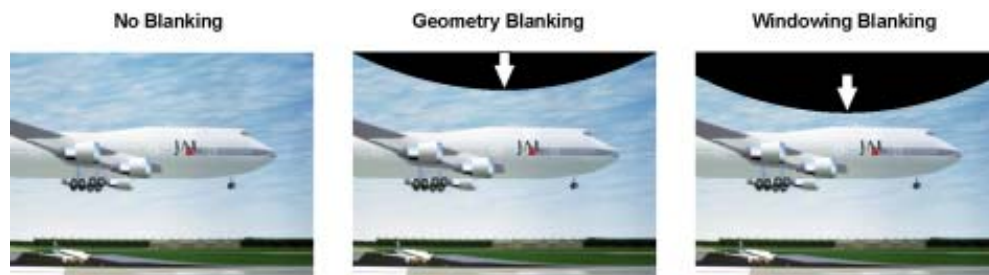


Image 7-13
Geometry-Banking and Windowing-Blanking

Display Blanking will be used in multichannel setups to create complex blankings.

Display Blanking is performed on Panel Level and so will pass the Geometry-Banking and/or Windowing-Blanking.

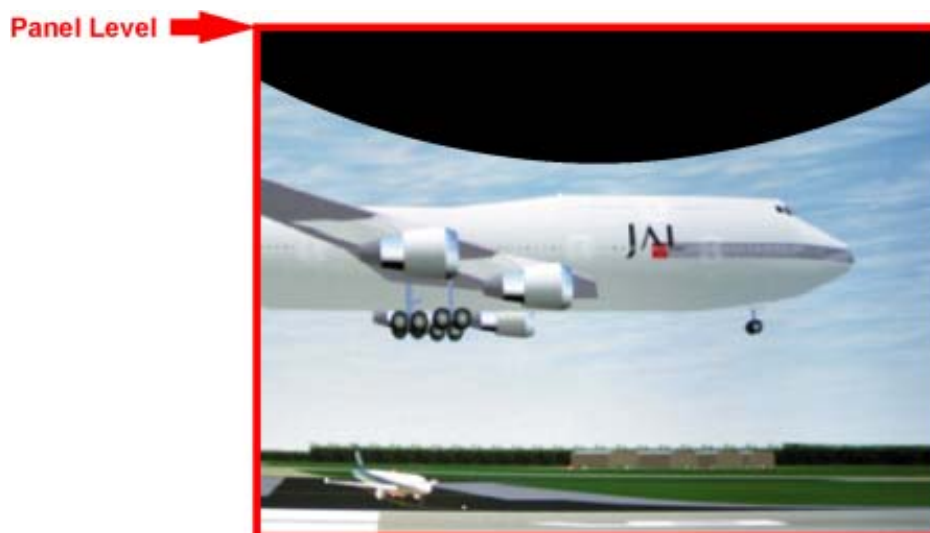


Image 7-14
Display Blanking is performed on Panel Level

Each side (Top, Bottom, Left, Right) of the image has 2 adjustable Display Blanking Locations.

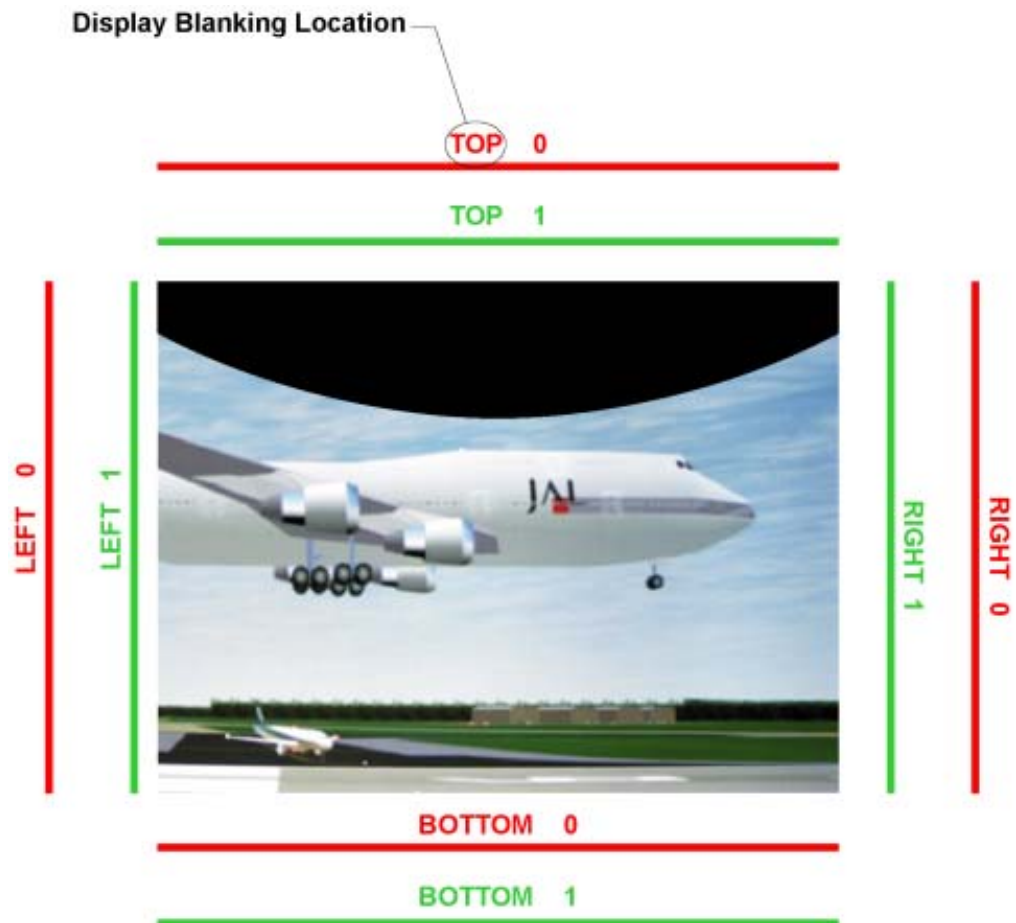


Image 7-15
Display Blanking Locations

Each Display Blanking Location is described by 2 points, the Display Blanking Positions.

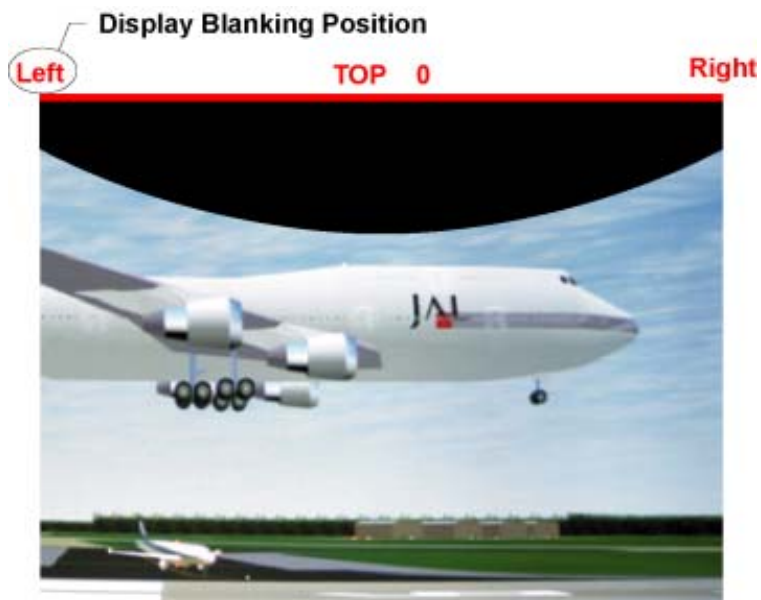


Image 7-16
Display Blanking Positions

The Display Blanking Location represents an edge, all information beyond this edge will be blanked out, the following image shows a Display Blanking adjustment for the Top Location.

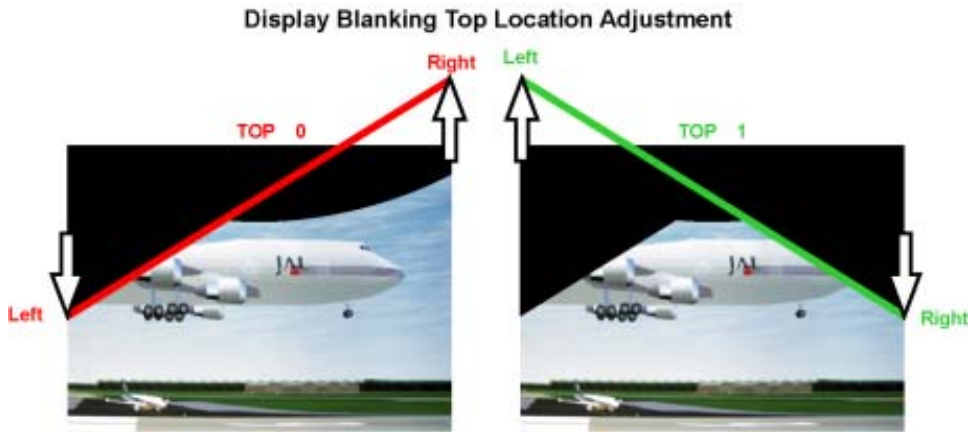


Image 7-17
Display Blanking

These Display Blanking Positions can be adjusted in steps of 1 pixel or steps of 1/32 pixel = subpixel.

How to Start Up Display Blanking?

1. Push the cursor key ↑ or ↓ to highlight *Display Blanking*. (menu 7-53)
2. Press **ENTER** to select.

The *Display Blanking* menu will be displayed. (menu 7-54)

SERVICE
UNIFORMITY
ELECTRONIC CONVERGENCE
DYNACOLOR
GRAY LEVEL DEFINITION
PURITY
DISPLAY BLANKING
PANEL ADJUSTMENT
PRESET INPUT BALANCE
MORE...
Select with , or ; then <ENTER> <EXIT> to return

Menu 7-53

DISPLAY BLANKING
ADJUST
ACTIVE [ON]
INITIALIZE
Select with , or ; <ENTER> to toggle/select <EXIT> to return

Menu 7-54

How to Adjust the Display Blanking?

1. Push the cursor key ↑ or ↓ to highlight *Adjust*. (menu 7-55)
2. Press **ENTER** to select.
Following items are shown in the *Display Blanking* adjustment menu:
 - The Display Blanking Location and its Positions
 - The pixel and subpixel adjustment boxes of the 2 available Display Blanking Locations (menu 7-56)

The default Display Blanking Location *Top* will be selected.

3. Press **ENTER** until the desired Display Blanking Location is selected e.g. *Left*. (menu 7-57)
For this Left Location the Top and Bottom position can be selected.
4. Push the cursor key ↑ or ↓ to select the desired Display Blanking Location e.g. Left– Top-Pixel. (menu 7-58)
5. Push the cursor key ← or → to adjust the Display Blanking Position.
6. Repeat step 4 through 5 until the desired Blanking Shape is reached.
7. Press **EXIT** to return to the *Display Blanking* menu.

DISPLAY BLANKING
ADJUST
ACTIVE [ON]
INITIALIZE
Select with , or ; <ENTER> to toggle/select <EXIT> to return

Menu 7-55

DISPLAY BLANKING
TOP LEFT RIGHT
PIXELS 0 0
SUBPIXELS 0 0
PIXELS 0 0
SUBPIXELS 0 0

Menu 7-56

DISPLAY BLANKING
LEFT TOP BOTTOM
PIXELS 0 0
SUBPIXELS 0 0
PIXELS 0 0
SUBPIXELS 0 0

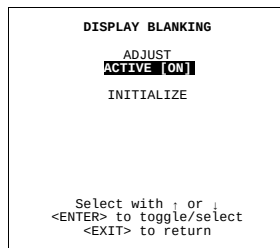
Menu 7-57

DISPLAY BLANKING
LEFT TOP BOTTOM
PIXELS 0 0
SUBPIXELS 0 0
PIXELS 0 0
SUBPIXELS 0 0

Menu 7-58

How to Toggle Display Blanking On/Off?

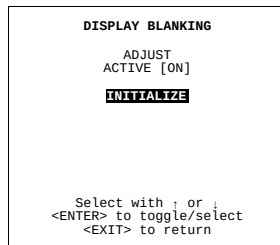
1. Push the cursor key ↑ or ↓ to highlight *Active [Off]*. (menu 7-59)
2. Press **ENTER** to toggle Display Blanking On/Off.



Menu 7-59

How to Initialize Display Blanking?

1. Push the cursor key ↑ or ↓ to highlight *Initialize*. (menu 7-60)
2. Press **ENTER** to set the Display Blanking settings to 0.
3. Press **EXIT** to return to the *Service Mode* menu.



Menu 7-60

7.18 Panel Adjustments



Changing these settings may seriously affect the performance of the projector.

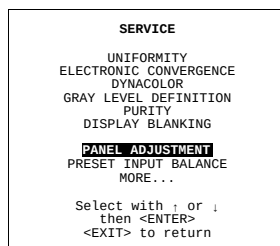
All panel adjustments are factory adjusted. If not really necessary, do not touch any of these adjustments. They are useful when a new panel is installed.

Start up

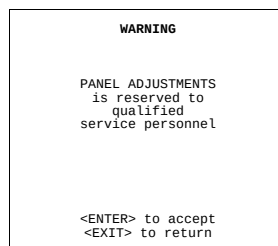
1. Push the cursor key ↑ or ↓ to highlight *Panel Adjustments* (menu 7-61)
2. Press **ENTER** to select.

The following warning will be displayed : (menu 7-62)

Panel Adjustments is reserved to qualified service personnel. If you are not qualified, press **EXIT** to cancel the panel adjustments.



Menu 7-61



Menu 7-62

7.19 Preset Input Balance



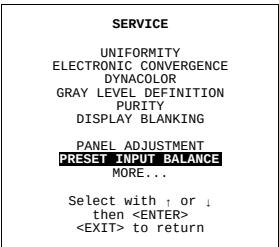
Changing these settings may seriously affect the performance of the projector.

Start up

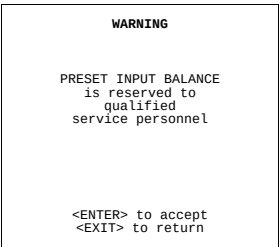
1. Push the cursor key ↑ or ↓ to highlight *Preset Input Balance*. (menu 7-63)
2. Press **ENTER** to select.

The following warning will be displayed : (menu 7-64)

Uniformity is reserved to qualified service personnel. If you are not qualified, press EXIT to cancel the Preset input balance adjustments.



Menu 7-63



Menu 7-64

A. STANDARD SOURCE SETUP FILES

A.1 Table overview

Table overview

The following standard source files are pre-programmed in the projector.

Name ⁶	Resolution ⁷	Fvert Hz ⁸	FHor kHz ⁹	Fpix MHz ¹⁰	Ptot ¹¹	Pact ¹²	Ltot ¹³	Lact ¹⁴
sxga_50	1280x1024	50,000	19,102	87,948	1680	1280	1047	1024
sxga_60	1280x1024	60,000	15,649	107,250	1680	1280	1064	1024
sxga_60i	1280x512i	60,000	15,649	53,626	1680	1280	532	512
sxga_as ¹⁵	1280x1024	72,000	12,992	129,306	1680	1280	1069	1024
xga_60	1024x768	60,000	20,678	64,996	1344	1024	806	768
xga_60i	1024x384i	60,000	20,678	32,498	1344	1024	403	384
xga_as ¹⁵	1024x768	70,000	17,528	78,044	1368	1024	815	768
1600_60v	1600x1200	60,000	13,333	162,000	2160	1600	1250	1200
uxga_60i	1600x600i	60,000	13,333	81,000	2160	1600	625	600
uxga_as ¹⁵	1600x1200	70,000	11,429	189,000	2160	1600	1250	1200
sxga_92s ¹⁶	1280x1024	92,000	10,225	156,470	1600	1280	1063	1024
sxga_96s ¹⁶	1280x1024	96,000	9,530	167,880	1600	1280	1093	1024
sxga108s ¹⁶	1280 x1024	108,000	8,875	164,140	1460	1280	1041	1024
xga_96s ¹⁶	1024 x768	96,000	12,908	99,164	1280	1024	807	768
xga_120s ¹⁶	1024x768	120 ,000	10,326	123,960	1280	1024	807	768
video625 ¹⁷	1448x284	25,000	64,000	14,461	1848	1448	313	284
video525 ¹⁷	1024x240	29,970	63,556	10,223	1302	1024	262	240
vga_txt	720x400	70,000	31,777	28,287	900	720	449	400
svga_60	800x600	60,000	26,400	39,790	1056	800	628	600
svga_as	800x600	65,000 or higher	20,779	45,089	1040	800	667	600
hdmac ¹⁷	1008x568	25,020	32,000	25,040	1252	1008	625	568

6. Name: name of file, contains the settings.

7. Resolution: image resolution, when followed by ..i means interlaced.

8. Fvert Hz: vertical frame frequency of the source

9. FHor kHz: horizontal frequency of the source

10. Fpix MHz: pixel frequency

11. Ftot : total pixels on one horizontal line.

12. Pact: active pixels on one horizontal line.

13. Ltot: total lines in one field

14. Lact: active lines in one field.

15. Fvert not in the range of 48–60 Hz

16. If ASC option is set

17. Only if video decoder is present

A. Standard Source setup files

Name ⁶	Resolution ⁷	Fvert Hz ⁸	FHor kHz ⁹	Fpix MHz ¹⁰	Ptot ¹¹	Pact ¹²	Ltot ¹³	Lact ¹⁴
hd_25p ¹⁷	1920x1080	25,000	35,556	74,250	2640	1920	1125	1080
hd_30p ¹⁷	1920x1080	30,000	29,630	74,250	2200	1920	1125	1080
hd_60p ¹⁷	1280 x720	60,000	22,222	74,250	1650	1280	750	720
hd_25i ¹⁷	1920x562	25,000	35,556	37,092	2640	1920	562	540
hd_30i ¹⁷	1920x540	30,000	29,630	37,158	2200	1920	563	540
SXGA_60L	1280x1024	60,000	64,000	196,397	3088	1280	1060	1024
SXGA_60R	1280x1024	60,000	64,000	196,397	3088	1280	1060	1024

Table A-1

B. SOURCE NUMBERS 81 — 86 AND 91 — 96

B.1 Projector without any 800 peripheral connected

Overview

The source numbers 81 - 86 and 91 - 96 do not correspond to physical inputs. An additional adjustment file can be created for these source numbers. This file can contain different settings. The relationship between sources 1 - 6 and 91 - 96 or between 1 - 6 and 81 - 86 is shown in the diagram below.

Source input 1	source number 1	file A
	source number 81	file A'
	source number 91	file A''
Source input 2	source number 2	file B
	source number 82	file B'
	source number 92	file B''
Source input 3	source number 3	file C
	source number 83	file C'
	source number 93	file C''
	...	
Source input 6	source number 6	file F
	source number 86	file F'
	source number 96	file F''

How to create a second source?

Follow the steps below to create a second or a third file for sources 1 to 6 :

1. Select the source between 1 and 6.
2. Select the corresponding source number between 81 and 86 or 91 and 96 with the digit keys on the RCU.
3. Enter the adjustment mode and load a corresponding file. Edit this file if necessary.
4. Save the file and exit the adjustment mode.

B.2 Projector with a 800 peripheral connected

Overview

- Source numbers 91 — 96
- Source numbers 81 — 86

B.2.1 Source numbers 91 — 96

Overview

The source numbers 91 - 99 do not correspond to physical inputs. An additional adjustment file can be created for these source numbers (source numbers of the 800 peripheral). This file can contain different settings. The relationship between sources 1 - 9 of the 800 peripheral and 91 - 99 is shown in the diagram below.

source input 1	source input 1	file A
	source input 91	file A'
source input 2	source input 2	file B
	source input 92	file B'

source input 3	source input 3	file C
	source input 93	file C'
	...	
source input 6	source input 6	file F
	source input 96	file F'

Follow the same procedure as for a projector without a 800 peripheral connected.

B.2.2 Source numbers 81 — 86

Overview

Only valid if no input module is connected to slot 81 - 86 of a RCVDS05. The source numbers 81 - 86 correspond to the physical inputs 1 - 6 of the projector. e.g. When slot 1 of the projector has to be selected, key in source number 81. The relationship between the sources of slot 1 - 6 of the projector with 800 peripheral is shown in the table below.

source of slot 1	source number 81
source of slot 2	source number 82
source of slot 3	source number 83
source of slot 4	source number 84
source of slot 5	source number 85
source of slot 6	source number 86

C. CLEANING THE DUSTFILTER

C.1 Cleaning

When should it be done?

Depending on the environment, the dust filters should be cleaned at least when replacing the lamp. When the projector operates in dusty environment, clean the dust filters earlier than when replacing the lamp.

How to clean the dustfilter?

To clean the dustfilter, follow the next procedure :

1. Turn the projector upside down.
2. Turn out the 2 fixation screws of both dust filters. (image C-1, image C-2)
3. Clean the dust filter with a dry cloth.
4. Re-insert the dust filter.
5. Secure their position by insertion and tightening 2 fixation screws.

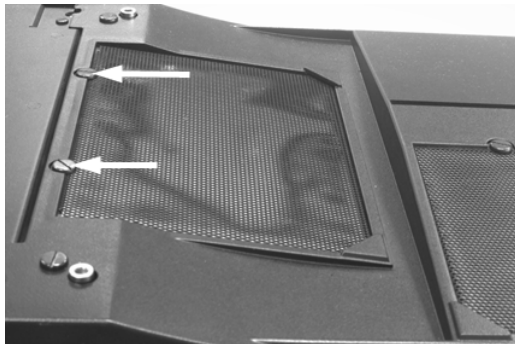


Image C-1

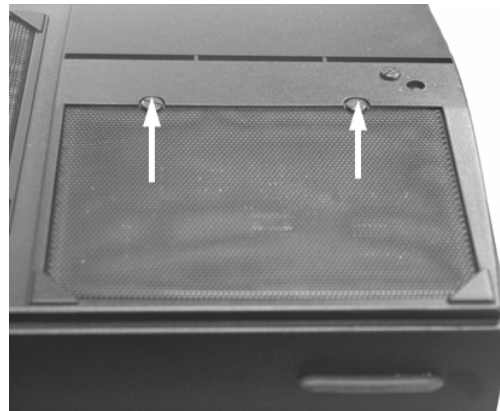


Image C-2

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Revision Sheet

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Please correct the following points in this documentation (**R5976420/03**):

page	wrong	correct